

# **Essex Fells Public School**

## **CURRICULUM & INSTRUCTION**

### **Science**

### **Grade: 2**

#### **ABSTRACT**

**Students are expected to develop an understanding of what plants need to grow and how plants depend on animals for seed dispersal and pollination. Students are also expected to compare the diversity of life in different habitats. Students develop an understanding of observable properties of materials at this level through analysis and classification of different materials. Students are able to apply their understanding of the idea that wind and water can change the shape of the land to compare design solutions to slow or prevent such change. Students are able to use information and models to identify and represent the shapes and kinds of land and bodies of water in an area and where water is found on Earth.**

***BOE Approved: 8/12/26***

# ESSEX FELLS PUBLIC SCHOOLS

## Grade 2 Science

| <b>Unit of Study:</b><br><i>(Pacing Guide - Specify time frame by days or weeks)</i>                                                                           | <b>Structure and Properties of Matter</b><br><i>September - November</i><br><i>(12 weeks)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Earth's Systems: Processes that Shape the Earth</b><br><i>December - February</i><br><i>(12 weeks)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Interdependent Relationships in Ecosystems</b><br><i>March - June</i><br><i>(12 weeks)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>STAGE 1: Desired Results</b>                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Established Goals:</b><br><b>Write out complete NJSLs:</b><br><i>(Content Specific Standards Only. Only use standards that are applicable to the unit.)</i> | <b>Science Standards</b><br><b>2-PS1-1:</b> Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.<br><b>2-PS1-2:</b> Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.<br><b>2-PS1-3.</b> Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.<br><b>2-PS1-4.</b> Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.<br><b>K-2-ETS1-1.</b> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.<br><b>K-2-ETS1-2.</b> Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. | <b>Science Standards</b><br><b>2-ESS1-1:</b> Use information from several sources to provide evidence that Earth events can occur quickly or slowly.<br><b>2-ESS2-1:</b> Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.<br><b>2-ESS2-2:</b> Develop a model to represent the shapes and kinds of land and bodies of water in an area.<br><b>2-ESS2-3:</b> Obtain information to identify where water is found on Earth and that it can be solid or liquid.<br><b>K-2-ETS1-1.</b> Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.<br><br><b>Disciplinary Core Ideas:</b><br><b>ESS1.C:</b> The History of Planet Earth <ul style="list-style-type: none"> <li>Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe. (2-ESS1-1)</li> </ul> | <b>Science Standards</b><br><b>2-LS2-1:</b> Plan and conduct an investigation to determine if plants need sunlight and water to grow.<br><b>2-LS2-2:</b> Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.<br><b>2-LS4-1:</b> Make observations of plants and animals to compare the diversity of life in different habitats.<br><b>2-ESS2-2:</b> Develop a model to represent the shapes and kinds of land and bodies of water in an area.<br><br><b>Disciplinary Core Ideas:</b><br><b>LS2.A:</b> Interdependent Relationships in Ecosystems <ul style="list-style-type: none"> <li>Plants depend on water and light to grow. (2-LS2-1)</li> <li>Plants depend on animals for pollination or to move their seeds around. (2LS2-2)</li> </ul> <b>LS4.D:</b> Biodiversity and Humans <ul style="list-style-type: none"> <li>There are many different kinds of living things in any area and they exist in different places on land and</li> </ul> |

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|  | <p><b>K-2-ETS1-3.</b> Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.</p> <p><b>Disciplinary Core Ideas:</b></p> <p><b>PS1.A:</b> Structure and Properties of Matter</p> <ul style="list-style-type: none"> <li>• Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature.</li> <li>• Matter can be described and classified by its observable properties. (2-PS1-1)</li> <li>• Different properties are suited to different purposes. (2-PS1-2), (2-PS1-3)</li> </ul> <p><b>PS1.B:</b> Chemical Reactions</p> <ul style="list-style-type: none"> <li>• Heating or cooling a substance may cause changes that can be observed. Sometimes these changes are reversible, and sometimes they are not. (2-PS1-4)</li> </ul> <p><b>ETS1.A:</b> Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> <li>• A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1)</li> <li>• Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1)</li> <li>• Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)</li> </ul> <p><b>ETS1.B:</b> Developing Possible Solutions</p> <ul style="list-style-type: none"> <li>• Designs can be conveyed through</li> </ul> | <p><b>ESS2.A:</b> Earth Materials and Systems:</p> <ul style="list-style-type: none"> <li>• Wind and water can change the shape of the land. (2-ESS2-1)</li> </ul> <p><b>ESS2.B:</b> Plate Tectonics and LargeScale System Interactions</p> <ul style="list-style-type: none"> <li>• Maps show where things are located. One can map the shapes and kinds of land and water in any area. (2-ESS2-2)</li> </ul> <p><b>ESS2.C:</b> The Roles of Water in Earth’s Surface Processes</p> <ul style="list-style-type: none"> <li>• Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form. (2-ESS2-3)</li> </ul> <p><b>ETS1.A:</b> Defining and Delimiting Engineering Problems</p> <ul style="list-style-type: none"> <li>• A situation that people want to change or create can be approached as a problem to be solved through engineering. (K-2-ETS1-1)</li> <li>• Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1)</li> <li>• Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)</li> </ul> | <p>in water. (2-LS4-1)</p> <p><b>ESS2.B:</b> Plate Tectonics and LargeScale System Interactions</p> <ul style="list-style-type: none"> <li>• Maps show where things are located. One can map the shapes and kinds of land and water in any area. (2-ESS2-2)</li> </ul> |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (secondary to 2-LS2-2)</p> <p><b>ETS1.C: Optimizing the Design Solution:</b></p> <ul style="list-style-type: none"> <li>Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K-2-ETS1-3)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Interdisciplinary Connections:</b><br/> <b>Write out complete NJSLs:</b><br/> <i>(Must have at least one standard from one of these areas but may have more):</i></p> <ul style="list-style-type: none"> <li>ELA companion standards;</li> <li>Standards for Mathematical Practice</li> <li>Science;</li> <li>Visual/Performing Arts) - Standard 1;</li> <li>Comprehensive Health &amp; PE - Standard 2;</li> <li>Social Studies - Standard 6;</li> <li>World</li> </ul> | <p><b>ELA Companion</b><br/> <b>RI.CR.2.1.</b> Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.<br/> <b>RI.IT.2.3.</b> Describe the connection between a series of historical events, scientific ideas or concepts, or steps in a sequence within a text.<br/> <b>RI.TS.2.4.</b> Describe the overall structure of a text and effectively use various text features (e.g., graphs, charts, images, captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information.<br/> <b>RI.PP.2.5.</b> Identify the main purpose of a text, including what the author seeks to explore, answer, explain, or describe.<br/> <b>RI.MF.2.6.</b> Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.<br/> <b>RI.AA.2.7.</b> Describe and identify the logical connections of how reasons support specific points the author makes in a text.<br/> <b>W.AW.2.1.</b> With prompts and support, write opinion pieces to present an idea with</p> | <p><b>ELA Companion</b><br/> <b>RI.CR.2.1.</b> Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.<br/> <b>RI.CI.2.2.</b> Recount a text in oral and written form and determine main topic (in multi-paragraph informational text, focusing on specific paragraphs).<br/> <b>RI.IT.2.3.</b> Describe the connection between a series of historical events, scientific ideas or concepts, or steps in a sequence within a text.<br/> <b>RI.TS.2.4.</b> Describe the overall structure of a text and effectively use various text features (e.g., graphs, charts, images, captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information.<br/> <b>RI.PP.2.5.</b> Identify the main purpose of a text, including what the author seeks to explore, answer, explain, or describe.<br/> <b>RI.MF.2.6.</b> Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.<br/> <b>W.IW.2.2.</b> Write informative/explanatory</p> | <p><b>ELA Companion</b><br/> <b>RI.CR.2.1.</b> Ask and answer questions to demonstrate understanding of key details in an informational text, referring explicitly to the text as the basis for the answers.<br/> <b>RI.IT.2.3.</b> Describe the connection between a series of historical events, scientific ideas or concepts, or steps in a sequence within a text.<br/> <b>RI.TS.2.4.</b> Describe the overall structure of a text and effectively use various text features (e.g., graphs, charts, images, captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information.<br/> <b>RI.PP.2.5.</b> Identify the main purpose of a text, including what the author seeks to explore, answer, explain, or describe.<br/> <b>W.IW.2.2.</b> Write informative/explanatory texts to examine a topic and convey ideas and information.</p> <ul style="list-style-type: none"> <li>D. Introduce a topic clearly.</li> <li>E. Develop a topic with facts definitions, concrete details, text evidence, or other information and examples related to the topic.</li> <li>F. Provide a conclusion.</li> </ul> |

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| <p><i>Languages - Standard 7;</i></p> | <p>reasons or information.</p> <ul style="list-style-type: none"> <li>A. Introduce an opinion.</li> <li>B. Support the opinion with facts, definitions, concrete details, text evidence, or other information and examples related to the topic.</li> <li>C. Provide a conclusion.</li> </ul> <p><b>W.WR.2.5.</b> Generate questions about a topic and locate related information from a reference source to obtain information on that topic through shared and independent research.</p> <p><b>W.RW.2.7.</b> Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.</p> <p><b>SL.PE.2.1.</b> Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>A. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>B. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</li> </ul> <p><b>SL.II.2.2.</b> Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</p> <p><b>L.VL.2.2.</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.</p> | <p>texts to examine a topic and convey ideas and information.</p> <ul style="list-style-type: none"> <li>A. Introduce a topic clearly.</li> <li>B. Develop a topic with facts definitions, concrete details, text evidence, or other information and examples related to the topic.</li> <li>C. Provide a conclusion.</li> </ul> <p><b>W.WR.2.5.</b> Generate questions about a topic and locate related information from a reference source to obtain information on that topic through shared and independent research.</p> <p><b>W.SE.2.6.</b> Prioritize information provided by different sources on the same topic while gathering ideas and planning to write about a topic.</p> <p><b>SL.PE.2.1.</b> Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>C. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>D. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</li> </ul> <p><b>SL.II.2.2.</b> Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</p> <p><b>SL.ES.2.3.</b> Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a</p> | <p><b>W.WR.2.5.</b> Generate questions about a topic and locate related information from a reference source to obtain information on that topic through shared and independent research.</p> <p><b>W.RW.2.7.</b> Engage in both collaborative and independent writing tasks regularly, including extended and shorter time frames.</p> <p><b>SL.PE.2.1.</b> Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.</p> <ul style="list-style-type: none"> <li>E. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).</li> <li>F. Build on others' talk in conversations by linking their explicit comments to the remarks of others.</li> </ul> <p><b>SL.II.2.2.</b> Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.</p> <p><b>L.VL.2.2.</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.</p> <p><b>Recommended Text:</b></p> <ul style="list-style-type: none"> <li>• <i>My Nature Notebook</i></li> <li>• <i>A Plant Is a System</i></li> <li>• <i>Habitat Scientist</i></li> <li>• <i>Investigating Seeds</i></li> <li>• <i>Handbook of Habitats</i></li> </ul> |
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|  | <p><b>Recommended Text:</b></p> <ul style="list-style-type: none"> <li>• <i>What is the World Made Of?</i> By Kathleen Weidner Zoehfeld</li> <li>• <i>Changing Matter</i> (Science Readers) by Karen Larson</li> <li>• <i>What If Rain Boots Were Made of Paper?</i></li> <li>• <i>Can You Change It Back?</i></li> <li>• <i>Jess Makes Hair Gel</i></li> <li>• <i>Jelly Bean Engineer</i></li> <li>• <i>The Handbook of Interesting Ingredients</i></li> </ul> <p><b>Mathematics</b></p> <p><b>2.OA.1:</b> Represent and solve problems involving addition and subtraction. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p><b>2.MD.10:</b> Represent and interpret data. Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.</p> | <p>topic or issue.</p> <p><b>L.VL.2.2.</b> Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.</p> <p><b>Recommended Text:</b></p> <ul style="list-style-type: none"> <li>• <i>Landform Postcards</i></li> <li>• <i>Gary's Sand Journal</i></li> <li>• <i>Making Models of Streams</i></li> <li>• <i>What's Stronger? How Water Causes Erosion</i></li> <li>• <i>Handbook of Land and Water</i></li> </ul> <p><b>Mathematics</b></p> <p><b>2.OA.1:</b> Represent and solve problems involving addition and subtraction. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p><b>2.OA.2:</b> Fluently add and subtract within 20 using mental strategies.</p> <p><b>2.NBT.5:</b> Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p><b>2.MD.3:</b> Estimate lengths using units of inches, feet, centimeters, and meters.</p> | <p><b>Mathematics</b></p> <p><b>2.NBT.2:</b> Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p><b>2.NBT.3:</b> Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p> <p><b>2.NBT.5:</b> With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p><b>2.NBT.7:</b> Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p><b>2.M.1:</b> Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p><b>2.M.2:</b> Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.</p> <p><b>2.M.4:</b> Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.</p> <p><b>2.DL.3:</b> Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated</p> |
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| <p><b>Integration of Career Readiness, Life Literacies &amp; Key Skills:</b><br/> <b>Write out complete NJSLS:</b><br/> <i>(Must have at least one standard from:</i><br/> <ul style="list-style-type: none"> <li>● 9.1 Personal Financial Literacy; or</li> <li>● 9.2 Career Awareness, Exploration, Preparation &amp; Training; or</li> <li>● 9.4 Life Literacies &amp;</li> </ul> </p> | <p><b>Career Readiness, Life Literacies &amp; Key Skills</b><br/> <b>9.4.2.CI.1:</b> Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).<br/> <b>9.4.2.CI.2:</b> Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a)<br/> <b>9.4.2.CT.1:</b> Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).<br/> <b>9.4.2.CT.2:</b> Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).<br/> <b>9.4.2.CT.3:</b> Use a variety of types of thinking to solve problems (e.g., inductive, deductive).<br/> <b>9.4.2.IML.3:</b> Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).</p> | <p><b>Career Readiness, Life Literacies &amp; Key Skills</b><br/> <b>9.1.2.RM.1:</b> Describe how valuable items might be damaged or lost and ways to protect them.<br/> <b>9.4.2.CI.1:</b> Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).<br/> <b>9.4.2.CI.2:</b> Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a)<br/> <b>9.4.2.CT.1:</b> Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).<br/> <b>9.4.2.CT.2:</b> Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).<br/> <b>9.4.2.CT.3:</b> Use a variety of types of thinking to solve problems (e.g., inductive, deductive).<br/> <b>9.4.2.DC.7:</b> Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).<br/> <b>9.4.2.IML.3:</b> Use a variety of sources including multimedia sources to find</p> | <p><b>Career Readiness, Life Literacies &amp; Key Skills</b><br/> <b>9.4.2.CI.1:</b> Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).<br/> <b>9.4.2.CI.2:</b> Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a)<br/> <b>9.4.2.CT.1:</b> Gather information about an issue, such as climate change, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).<br/> <b>9.4.2.CT.2:</b> Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).<br/> <b>9.4.2.CT.3:</b> Use a variety of types of thinking to solve problems (e.g., inductive, deductive).<br/> <b>9.4.2.DC.7:</b> Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).<br/> <b>9.4.2.IML.3:</b> Use a variety of sources including multimedia sources to find information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2,</p> |

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| <i>Key Skills)</i>                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | information about topics such as climate change, with guidance and support from adults (e.g., 6.3.2.GeoGI.2, 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.1.2.HistorySE.3, W.2.6, 1-LSI-2).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Integration of Computer Science and Design Thinking: Write out complete NJSLS: (Must have at least one standard from:</b> <ul style="list-style-type: none"> <li>● 8.1 Computer Science; or</li> <li>● 8.2 Design Thinking)</li> </ul> | <b>Computer Science</b><br><b>8.1.2.DA.3:</b> Identify and describe patterns in data visualizations.<br><b>8.1.2.DA.4:</b> Make predictions based on data using charts or graphs.<br><br><b>Design Thinking</b><br><b>8.2.2.ED.2:</b> Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.<br><b>8.2.2.ED.3:</b> Select and use appropriate tools and materials to build a product using the design process<br><b>8.2.2.ITH.1:</b> Identify products that are designed to meet human wants or needs.<br><b>8.2.2.ITH.5:</b> Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.<br><b>8.2.2.NT.2:</b> Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem. | <b>Computer Science</b><br><b>8.1.2.DA.1:</b> Collect and present data, including climate change data, in various visual formats.<br><b>8.1.2.DA.3:</b> Identify and describe patterns in data visualizations.<br><b>8.1.2.DA.4:</b> Make predictions based on data using charts or graphs.<br><br><b>Design Thinking</b><br><b>8.2.2.ED.2:</b> Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.<br><b>8.2.2.ED.3:</b> Select and use appropriate tools and materials to build a product using the design process<br><b>8.2.2.ITH.5:</b> Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution. | <b>Computer Science</b><br><b>8.1.2.DA.1:</b> Collect and present data, including climate change data, in various visual formats.<br><b>8.1.2.DA.3:</b> Identify and describe patterns in data visualizations.<br><b>8.1.2.DA.4:</b> Make predictions based on data using charts or graphs.<br><b>8.1.2.AP.2:</b> Model the way programs store and manipulate data by using numbers or other symbols to represent information<br><br><b>Design Thinking</b><br><b>8.2.2.ED.2:</b> Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.<br><b>8.2.2.ED.3:</b> Select and use appropriate tools and materials to build a product using the design process<br><b>8.2.2.ITH.5:</b> Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution. |
| <b>21st Century Life and Careers: Career Education: Write out complete NJSLS: (Only include if a</b>                                                                                                                                      | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| <p>CTE<br/>curriculum<br/>● 9.3 Career<br/>and Technical<br/>Education)</p>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p><b>Enduring Understandings:</b> (Follow UbD: What big ideas will students know?)</p> | <ul style="list-style-type: none"> <li>● Properties include how materials smell, look, taste, feel, and sound.</li> <li>● Different materials have different properties.</li> <li>● You can tell if materials and substances are different by observing their properties.</li> <li>● You can tell if materials and substances are different by observing their properties or by testing them.</li> <li>● Properties of mixtures can change when other ingredients are added.</li> <li>● Properties of substances are the same whether you have a small amount or a large amount.</li> <li>● Engineers test their designs to find out whether they meet their design goals.</li> <li>● When a substance is heated or cooled, its properties can change.</li> <li>● Some substances change back to the way they were before they were heated or cooled.</li> <li>● If a substance doesn't change back to the way it was, it has become a different substance.</li> <li>● Mixtures may have a combination of the properties of their ingredients.</li> <li>● Mixtures may have some of the properties of their ingredients.</li> <li>● Mixtures can be designed for certain</li> </ul> | <ul style="list-style-type: none"> <li>● Landforms can change.</li> <li>● Water can cause landforms to change.</li> <li>● Landforms change slowly.</li> <li>● Landforms are made of rock.</li> <li>● Even if geologists can't see a change happening, they can use models to visualize how it may have happened.</li> <li>● Even though rock is hard, it can change shape.</li> <li>● The shape of a landform changes when water causes pieces of rock to break off.</li> <li>● Water hitting a landform causes tiny pieces of the landform to break off.</li> <li>● Scientists make diagrams to show their ideas about how the world works, based on evidence from investigations, models, and books.</li> <li>● Maps show where water and land are and where different landforms are.</li> <li>● Many small changes that are hard to notice can add up to a bigger change that is easy to notice.</li> <li>● When many small changes happen over a long time, the whole landform changes.</li> <li>● Wind and water can erode a landform quickly if the landform is made of loose materials.</li> </ul> | <ul style="list-style-type: none"> <li>● One way scientists study habitats is by observing the plants in them over time.</li> <li>● There are many types of habitats. Each habitat has many different types of plants and animals.</li> <li>● Plants make seeds that can grow into new plants.</li> <li>● Only seeds that get enough sunlight and water sprout and grow into full-grown plants.</li> <li>● Plants have leaves that get sunlight. Plants have roots that get water from the soil.</li> <li>● Without enough space, plants can't get the sunlight and water they need to grow.</li> <li>● Leaves need space to get sunlight. Roots need space in the soil to get water.</li> <li>● Animals sometimes disperse seeds by eating fruit, moving to another place, and leaving droppings with the seeds inside.</li> <li>● Before they investigate, scientists decide how they will measure the thing they want to learn about.</li> <li>● Some plants depend on animals to disperse their seeds. These animals depend on the plants for food.</li> </ul> |

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|                                                                                                                                                                                                                                            | purposes by using ingredients with certain properties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Essential Questions:</b><br><i>(Follow UbD best practices in the creation of questions)</i>                                                                                                                                             | <ol style="list-style-type: none"> <li>1. What can be noticed about different materials?</li> <li>2. How can you tell if substances are different?</li> <li>3. How can the properties of a mixture change?</li> <li>4. Which ingredients should we use (or not use) in our glue?</li> <li>5. What can happen after a substance has been heated or cooled and returns to its original temperature?</li> <li>6. How can mixtures be designed to have certain properties?</li> <li>7. What is the glue recipe that best meets our design goals?</li> </ol>          | <ol style="list-style-type: none"> <li>1. What are landforms made of?</li> <li>2. How do geologists figure out how something changed when they can't observe it changing?</li> <li>3. What can make landforms change?</li> <li>4. How could water change a landform even though landforms are made of hard rock?</li> <li>5. If erosion moves small pieces of rock, how can it cause a big change?</li> <li>6. How can landforms erode quickly?</li> </ol>                                                                                                       | <ol style="list-style-type: none"> <li>1. How do scientists study habitats?</li> <li>2. How do new plants grow?</li> <li>3. How do plants get the sunlight and water they need to grow?</li> <li>4. Why can't plants always get the sunlight and water they need to grow?</li> <li>5. How can seeds get to new places in their habitats?</li> <li>6. How are other seeds in the reserve able to get to places where they can grow?</li> </ol>                                                                                                                    |
| <b>STAGE 2: Evidence</b>                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Assessment &amp; Evidence:</b> <i>(By what criteria will performances of understanding be judged? Include:</i><br><i>1. Formative,</i><br><i>2. Summative,</i><br><i>3. Alternative - Performance/ Project)</i><br><i>4. Benchmark)</i> | <b>Formative Assessments</b> <ul style="list-style-type: none"> <li>● On-the-Fly assessment</li> <li>● Critical Juncture assessments</li> <li>● Class Discussions</li> <li>● Classroom Polls - using various apps; responses only</li> <li>● seen by teacher</li> <li>● Cooperative Learning Activities that students complete in class where the teacher can assess an individual or group</li> <li>● Exit Tickets</li> <li>● In-class Assignments</li> <li>● Labs</li> <li>● Quizzes</li> <li>● Teacher Observations</li> <li>● Think - Pair -Share</li> </ul> | <b>Formative Assessments</b> <ul style="list-style-type: none"> <li>● On-the-Fly assessment</li> <li>● Critical Juncture assessments</li> <li>● Class Discussions</li> <li>● Classroom Polls - using various apps; responses only</li> <li>● seen by teacher</li> <li>● Cooperative Learning Activities that students complete in class where the teacher can assess an individual or group</li> <li>● Exit Tickets</li> <li>● In-class Assignments</li> <li>● Labs</li> <li>● Quizzes</li> <li>● Teacher Observations</li> <li>● Think - Pair -Share</li> </ul> | <b>Formative Assessments</b> <ul style="list-style-type: none"> <li>● On-the-Fly assessment</li> <li>● Critical Juncture assessments</li> <li>● Class Discussions</li> <li>● Classroom Polls - using various apps; responses only</li> <li>● seen by teacher</li> <li>● Cooperative Learning Activities that students complete in class where the teacher can assess an individual or group</li> <li>● Exit Tickets</li> <li>● In-class Assignments</li> <li>● Labs</li> <li>● Quizzes</li> <li>● Teacher Observations</li> <li>● Think - Pair -Share</li> </ul> |

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|                                                                                                                                                                                                                                           | <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● End-of-Unit assessment</li> <li>● Open Ended Questions</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Create Something - have students build/create something that requires that they apply what they have learned</li> <li>● Oral Presentations</li> <li>● Research Based Writing</li> <li>● Peer Assessment</li> <li>● Performance Tasks</li> <li>● Presentations</li> <li>● Scientific Notebooks</li> <li>● Student Self-Assessments</li> </ul> <p><b>Benchmark Assessments</b></p> <ul style="list-style-type: none"> <li>● Pre-Unit assessment</li> <li>● Post-Unit assessment</li> </ul> | <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● End-of-Unit assessment</li> <li>● Open Ended Questions</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Create Something - have students build/create something that requires that they apply what they have learned</li> <li>● Oral Presentations</li> <li>● Research Based Writing</li> <li>● Peer Assessment</li> <li>● Performance Tasks</li> <li>● Presentations</li> <li>● Scientific Notebooks</li> <li>● Student Self-Assessments</li> </ul> <p><b>Benchmark Assessments</b></p> <ul style="list-style-type: none"> <li>● Pre-Unit assessment</li> <li>● Post-Unit assessment</li> </ul> | <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● End-of-Unit assessment</li> <li>● Open Ended Questions</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Create Something - have students build/create something that requires that they apply what they have learned</li> <li>● Oral Presentations</li> <li>● Research Based Writing</li> <li>● Peer Assessment</li> <li>● Performance Tasks</li> <li>● Presentations</li> <li>● Scientific Notebooks</li> <li>● Student Self-Assessments</li> </ul> <p><b>Benchmark Assessments</b></p> <ul style="list-style-type: none"> <li>● Pre-Unit assessment</li> <li>● Post-Unit assessment</li> </ul> |
| <b>STAGE 3: Learning Plan</b>                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b>Learning Activities/Content:</b> <i>(What is the core content of this unit? What performance tasks/ activities will students do? What skills will students know? Include content that adheres to NJ Administrative Code and</i></p> | <ul style="list-style-type: none"> <li>● Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.</li> <li>● Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.</li> <li>● Make observations to construct an evidence based account of how an object made of a small set of pieces can be disassembled and made into a new object.</li> </ul>                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>● Use information from several sources to provide evidence that Earth events can occur quickly or slowly.</li> <li>● Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.</li> <li>● Develop a model to represent the shapes and kinds of land and bodies of water in an area.</li> <li>● Obtain information to identify where water is found on Earth and that it can be solid or liquid.</li> </ul>                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>● Plan and conduct an investigation to determine if plants need sunlight and water to grow.</li> <li>● Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.</li> <li>● Make observations of plants and animals to compare the diversity of life in different habitats.</li> <li>● Plant seeds in three different environments and observe which grew faster.</li> <li>● Endangered animal research project:</li> </ul>                                                                                                                                                                                                       |

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| <p><i>Statutes:</i></p> <ul style="list-style-type: none"> <li>• <i>Amistad Law</i></li> <li>• <i>Holocaust Law</i></li> <li>• <i>LGBTQ/D isabilities Law</i></li> </ul> | <ul style="list-style-type: none"> <li>• Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.</li> <li>• Observe and test glue mixtures in order to determine the effect that adding particular ingredients has had - whether the cause of adding the ingredients had the effect of giving the glue the desired properties.</li> <li>• Sort vocabulary cards to apply understanding of cause and effect as it relates to chemical changes and to designing mixtures.</li> <li>• Discuss cause and effect in a whole-class setting and with partners.</li> <li>• Rean informational text about the effect that the cause of heating or cooling a substance (and returning it to its original temperature) can have on the substance.</li> <li>• Make predictions if effects of cooling or heating a substance is reversible.</li> <li>• Write design arguments to reason about the effect that the cause of adding particular ingredients will have on a glue mixture.</li> </ul> <p><b>DEI Activities - Diversity and Inclusion statute (N.J.S.A. 18A:35-4.36a)</b></p> <ul style="list-style-type: none"> <li>• Work collaboratively during investigations and engineering challenges.</li> <li>• Encourage all students to share</li> </ul> | <ul style="list-style-type: none"> <li>• Build sand castles and demonstrate how slow/fast the Earth changes.</li> <li>• Read books based on natural disasters</li> <li>• Observe models of erosion for landforms composed of different materials and observe the size of particles that are moved by water and compare the timescale of change.</li> <li>• Student-to-student talk to discuss erosion at different timescales and spatial scales.</li> <li>• Read several books that highlight the way in which erosion moves tiny particles but can cause large-scale changes.</li> <li>• Write scientific explanations about erosion</li> <li>• Read, use models, and construct explanations to visualize the process of erosion at different scales.</li> </ul> <p><b>DEI Activities - Diversity and Inclusion statute (N.J.S.A. 18A:35-4.36a)</b></p> <ul style="list-style-type: none"> <li>• Work collaboratively during investigations and engineering challenges.</li> <li>• Encourage all students to share ideas, predictions, and observations.</li> <li>• Recognize that scientists and engineers from diverse backgrounds contribute to solving problems.</li> <li>• Respect different approaches and ideas while working together.</li> <li>• Design solutions that are safe and accessible for everyone.</li> </ul> | <p>focus on habitat, animal description, and why they are endangered</p> <ul style="list-style-type: none"> <li>• Engineer it- Students make a plan to build a tool that will pick up and move different seeds. Students will record their plan, design a model, and test their tool. Students will graph how many seeds they were able to move with their tool.</li> <li>• Engage in a whole-class model of the interacting parts of a habitat in order to examine how the plants and animals in a habitat interact.</li> <li>• Read to text to investigate the concept that plants are systems made of parts that work together to help the plant get what it needs to grow.</li> <li>• Write scientific explanations about what plants need to grow and how they get what they need to grow.</li> <li>• Use kinesthetic and physical models to visualize the interacting parts of a habitat.</li> </ul> <p><b>DEI Activities - Diversity and Inclusion statute (N.J.S.A. 18A:35-4.36a)</b></p> <ul style="list-style-type: none"> <li>• Work collaboratively during investigations and engineering challenges.</li> <li>• Encourage all students to share ideas, predictions, and observations.</li> <li>• Recognize that scientists and engineers from diverse backgrounds contribute to solving problems.</li> <li>• Respect different approaches and ideas while working together.</li> </ul> |
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|                                                                                | <p>ideas, predictions, and observations.</p> <ul style="list-style-type: none"> <li>Recognize that scientists and engineers from diverse backgrounds contribute to solving problems.</li> <li>Respect different approaches and ideas while working together.</li> <li>Design solutions that are safe and accessible for everyone.</li> </ul> <p><b>Amistad Law (N.J.S.A. 18A:52-16A-88)</b></p> <ul style="list-style-type: none"> <li>Learn about diverse inventors, engineers, and scientists who have improved transportation, technology, and everyday life.</li> <li>Recognize that people from many cultures contribute to engineering and scientific innovation.</li> <li>Discuss how engineering helps solve problems in communities.</li> </ul> <p><b>Holocaust Law (N.J.S.A. 18A:35-28)</b></p> <ul style="list-style-type: none"> <li>Practice kindness, cooperation, and respect while participating in engineering challenges.</li> <li>Encourage teamwork and include everyone's ideas.</li> <li>Demonstrate fairness, empathy, and responsibility during collaborative investigations.</li> </ul> | <p><b>Amistad Law (N.J.S.A. 18A:52-16A-88)</b></p> <ul style="list-style-type: none"> <li>Learn about diverse inventors, engineers, and scientists who have improved transportation, technology, and everyday life.</li> <li>Recognize that people from many cultures contribute to engineering and scientific innovation.</li> <li>Discuss how engineering helps solve problems in communities.</li> </ul> <p><b>Holocaust Law (N.J.S.A. 18A:35-28)</b></p> <ul style="list-style-type: none"> <li>Practice kindness, cooperation, and respect while participating in engineering challenges.</li> <li>Encourage teamwork and include everyone's ideas.</li> <li>Demonstrate fairness, empathy, and responsibility during collaborative investigations.</li> </ul> | <ul style="list-style-type: none"> <li>Design solutions that are safe and accessible for everyone.</li> </ul> <p><b>Amistad Law (N.J.S.A. 18A:52-16A-88)</b></p> <ul style="list-style-type: none"> <li>Learn about diverse inventors, engineers, and scientists who have improved transportation, technology, and everyday life.</li> <li>Recognize that people from many cultures contribute to engineering and scientific innovation.</li> <li>Discuss how engineering helps solve problems in communities.</li> </ul> <p><b>Holocaust Law (N.J.S.A. 18A:35-28)</b></p> <ul style="list-style-type: none"> <li>Practice kindness, cooperation, and respect while participating in engineering challenges.</li> <li>Encourage teamwork and include everyone's ideas.</li> <li>Demonstrate fairness, empathy, and responsibility during collaborative investigations.</li> </ul> |
| <p><b>Resources:</b><br/>(Include names of texts and all online resources)</p> | <ul style="list-style-type: none"> <li>Amplify Science: Properties of Materials: Designing Glue</li> <li><a href="http://www.nextgenscience.org/">http://www.nextgenscience.org/</a></li> <li><a href="http://www.learn360.com">http://www.learn360.com</a></li> <li>Steve Spangler Science: Easy Science Experiments, Science Toys <ul style="list-style-type: none"> <li><a href="https://www.stevespanglerscience.com/">https://www.stevespanglerscience.com/</a></li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>Amplify Science: Changing Landforms: The Disappearing Cliff</li> <li><a href="http://www.nextgenscience.org/">http://www.nextgenscience.org/</a></li> <li><a href="https://betterlesson.com/home">https://betterlesson.com/home</a></li> <li>BrainPOPJr. <ul style="list-style-type: none"> <li><a href="https://jr.brainpop.com/topic/landforms/?keyword=Landforms&amp;searchEnv=bpjr">https://jr.brainpop.com/topic/landforms/?keyword=Landforms&amp;searchEnv=bpjr</a></li> </ul> </li> </ul>                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>Amplify Science: Plant and Animal Relationships: Investigating Systems in a Bengali Forest</li> <li><a href="http://www.nextgenscience.org/">http://www.nextgenscience.org/</a></li> <li><a href="https://betterlesson.com/home">https://betterlesson.com/home</a></li> <li>BrainPOPJr. <ul style="list-style-type: none"> <li><a href="https://jr.brainpop.com/search?keyword=Plant%20Life">https://jr.brainpop.com/search?keyword=Plant%20Life</a></li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                |

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|                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>● Scholastic News (w/ online resource)</li> <li>● Science Spin (w/ online resource)</li> <li>● <a href="http://betterlesson.com">http://betterlesson.com</a></li> <li>● Bill Nye - Phases of Matter</li> <li>● BrainPOP Jr. <ul style="list-style-type: none"> <li>○ <a href="https://jr.brainpop.com/science/matter/changingstatesofmatter/">https://jr.brainpop.com/science/matter/changingstatesofmatter/</a></li> </ul> </li> <li>● Into Reading text</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>○ <a href="https://jr.brainpop.com/topic/fast-land-changes/?keyword=volcano&amp;searchEnv=bpjr">https://jr.brainpop.com/topic/fast-land-changes/?keyword=volcano&amp;searchEnv=bpjr</a></li> <li>● <a href="http://www.learn360.com">http://www.learn360.com</a></li> <li>● Scholastic News (w/ online resource)</li> <li>● Science Spin (w/ online resource)</li> <li>● Into Reading text</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>● <a href="http://www.learn360.com">%20Cycle</a></li> <li>● Scholastic News (w/ online resource)</li> <li>● Science Spin (w/ online resource)</li> <li>● Into Reading text</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>Differentiation:</b><br/> <i>(What type of differentiated instruction will be used for each of the following subgroups:</i><br/> 1. <i>Special Education</i><br/> 2. <i>English Language Learners (ELLs)</i><br/> 3. <i>At Risk/BSI</i><br/> 4. <i>Gifted &amp; Talented/Advanced</i><br/> 5. <i>504</i>)</p> | <p><b>Special Education</b></p> <ul style="list-style-type: none"> <li>● Individualized Education Plans (IEPs)</li> <li>● Exemplars of varied performance levels</li> <li>● Multi-media presentations</li> <li>● Sheltered Instruction</li> <li>● Consultation with CST</li> <li>● Manipulatives</li> <li>● Scaffolded Lessons</li> <li>● Guided note-taking</li> <li>● Study Guides</li> <li>● Modified homework</li> <li>● Differentiated pre-typed class notes and example problems</li> <li>● Use of the inclusion teacher to re-instruct in flexible small groups for the struggling learner</li> <li>● Use of alternate assessments</li> </ul> <p><b>English Language Learners (ELLs)</b></p> <ul style="list-style-type: none"> <li>● Alternate ways for the student to respond (verbal/pictographic answers instead of written)</li> <li>● Substitute a hands-on activity or use of different media in projects for a written activity</li> </ul> | <p><b>Special Education</b></p> <ul style="list-style-type: none"> <li>● Individualized Education Plans (IEPs)</li> <li>● Exemplars of varied performance levels</li> <li>● Multi-media presentations</li> <li>● Sheltered Instruction</li> <li>● Consultation with CST</li> <li>● Manipulatives</li> <li>● Scaffolded Lessons</li> <li>● Guided note-taking</li> <li>● Study Guides</li> <li>● Modified homework</li> <li>● Differentiated pre-typed class notes and example problems</li> <li>● Use of the inclusion teacher to re-instruct in flexible small groups for the struggling learner</li> <li>● Use of alternate assessments</li> </ul> <p><b>English Language Learners (ELLs)</b></p> <ul style="list-style-type: none"> <li>● Alternate ways for the student to respond (verbal/pictographic answers instead of written)</li> <li>● Substitute a hands-on activity or use of different media in projects for a written activity</li> </ul> | <p><b>Special Education</b></p> <ul style="list-style-type: none"> <li>● Individualized Education Plans (IEPs)</li> <li>● Exemplars of varied performance levels</li> <li>● Multi-media presentations</li> <li>● Sheltered Instruction</li> <li>● Consultation with CST</li> <li>● Manipulatives</li> <li>● Scaffolded Lessons</li> <li>● Guided note-taking</li> <li>● Study Guides</li> <li>● Modified homework</li> <li>● Differentiated pre-typed class notes and example problems</li> <li>● Use of the inclusion teacher to re-instruct in flexible small groups for the struggling learner</li> <li>● Use of alternate assessments</li> </ul> <p><b>English Language Learners (ELLs)</b></p> <ul style="list-style-type: none"> <li>● Alternate ways for the student to respond (verbal/pictographic answers instead of written)</li> <li>● Substitute a hands-on activity or use of different media in projects for a written activity</li> </ul> |

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|  | <ul style="list-style-type: none"> <li>• Word banks</li> <li>• Word walls</li> <li>• Advance notes</li> <li>• Model sentence frames and sentence starters for both oral responses and written responses</li> <li>• Additional time to complete assessments and assignments</li> <li>• Model and use gestures to aid in understanding</li> <li>• Model tasks by giving one or two examples before releasing students to work independently</li> <li>• Present instructions both verbally and visually</li> <li>• Simplify written and verbal instructions</li> <li>• Partner reading</li> <li>• Strategic partnering</li> <li>• Previewing vocabulary</li> <li>• Bilingual glossary</li> </ul> <p><b>Students At-Risk (BSI)</b></p> <ul style="list-style-type: none"> <li>• Anticipation guide</li> <li>• Small groups</li> <li>• Partner reading</li> <li>• Teacher modeling</li> <li>• Sentence frames</li> <li>• Interactive maps</li> <li>• Vocabulary Self-Collection Strategy (VSS)</li> <li>• Graphic organizers</li> <li>• Use of technology for class assignments and homework</li> <li>• Provide opportunities for students to discuss material verbally and also periods of quiet reflection</li> </ul> | <ul style="list-style-type: none"> <li>• Word banks</li> <li>• Word walls</li> <li>• Advance notes</li> <li>• Model sentence frames and sentence starters for both oral responses and written responses</li> <li>• Additional time to complete assessments and assignments</li> <li>• Model and use gestures to aid in understanding</li> <li>• Model tasks by giving one or two examples before releasing students to work independently</li> <li>• Present instructions both verbally and visually</li> <li>• Simplify written and verbal instructions</li> <li>• Partner reading</li> <li>• Strategic partnering</li> <li>• Previewing vocabulary</li> <li>• Bilingual glossary</li> </ul> <p><b>Students At-Risk (BSI)</b></p> <ul style="list-style-type: none"> <li>• Anticipation guide</li> <li>• Small groups</li> <li>• Partner reading</li> <li>• Teacher modeling</li> <li>• Sentence frames</li> <li>• Interactive maps</li> <li>• Vocabulary Self-Collection Strategy (VSS)</li> <li>• Graphic organizers</li> <li>• Use of technology for class assignments and homework</li> <li>• Provide opportunities for students to discuss material verbally and also periods of quiet reflection</li> </ul> | <ul style="list-style-type: none"> <li>• Word banks</li> <li>• Word walls</li> <li>• Advance notes</li> <li>• Model sentence frames and sentence starters for both oral responses and written responses</li> <li>• Additional time to complete assessments and assignments</li> <li>• Model and use gestures to aid in understanding</li> <li>• Model tasks by giving one or two examples before releasing students to work independently</li> <li>• Present instructions both verbally and visually</li> <li>• Simplify written and verbal instructions</li> <li>• Partner reading</li> <li>• Strategic partnering</li> <li>• Previewing vocabulary</li> <li>• Bilingual glossary</li> </ul> <p><b>Students At-Risk (BSI)</b></p> <ul style="list-style-type: none"> <li>• Anticipation guide</li> <li>• Small groups</li> <li>• Partner reading</li> <li>• Teacher modeling</li> <li>• Sentence frames</li> <li>• Interactive maps</li> <li>• Vocabulary Self-Collection Strategy (VSS)</li> <li>• Graphic organizers</li> <li>• Use of technology for class assignments and homework</li> <li>• Provide opportunities for students to discuss material verbally and also periods of quiet reflection</li> </ul> |
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|  | <p><b>Gifted and Talented (Advanced) Students</b></p> <ul style="list-style-type: none"> <li>● Encourage independent studies or investigations</li> <li>● Topic selection by interest</li> <li>● Varied levels of reading text</li> <li>● Enriched hands on center that students can explore independently</li> <li>● Higher order thinking tasks and questions</li> <li>● Provide leadership opportunities in lab groups</li> <li>● Allow opportunities to analyze and evaluate materials</li> <li>● Anticipatory chart with questioning</li> <li>● Open-ended and informative writing</li> <li>● Reading reflection</li> <li>● Internet based research</li> <li>● Open-ended responses</li> <li>● Supplemental reading material for independent study</li> <li>● Flexible grouping</li> </ul> <p><b>504 Plans</b></p> <ul style="list-style-type: none"> <li>● Preferential seating</li> <li>● Extended time on tests and assignments</li> <li>● Reduced homework or classwork</li> <li>● Verbal, visual, or technology aids</li> <li>● Modified textbooks or audio-video materials</li> <li>● Oral assessments</li> </ul> | <p><b>Gifted and Talented (Advanced) Students</b></p> <ul style="list-style-type: none"> <li>● Encourage independent studies or investigations</li> <li>● Topic selection by interest</li> <li>● Varied levels of reading text</li> <li>● Enriched hands on center that students can explore independently</li> <li>● Higher order thinking tasks and questions</li> <li>● Provide leadership opportunities in lab groups</li> <li>● Allow opportunities to analyze and evaluate materials</li> <li>● Anticipatory chart with questioning</li> <li>● Open-ended and informative writing</li> <li>● Reading reflection</li> <li>● Internet based research</li> <li>● Open-ended responses</li> <li>● Supplemental reading material for independent study</li> <li>● Flexible grouping</li> </ul> <p><b>504 Plans</b></p> <ul style="list-style-type: none"> <li>● Preferential seating</li> <li>● Extended time on tests and assignments</li> <li>● Reduced homework or classwork</li> <li>● Verbal, visual, or technology aids</li> <li>● Modified textbooks or audio-video materials</li> <li>● Oral assessments</li> </ul> | <p><b>Gifted and Talented (Advanced) Students</b></p> <ul style="list-style-type: none"> <li>● Encourage independent studies or investigations</li> <li>● Topic selection by interest</li> <li>● Varied levels of reading text</li> <li>● Enriched hands on center that students can explore independently</li> <li>● Higher order thinking tasks and questions</li> <li>● Provide leadership opportunities in lab groups</li> <li>● Allow opportunities to analyze and evaluate materials</li> <li>● Anticipatory chart with questioning</li> <li>● Open-ended and informative writing</li> <li>● Reading reflection</li> <li>● Internet based research</li> <li>● Open-ended responses</li> <li>● Supplemental reading material for independent study</li> <li>● Flexible grouping</li> </ul> <p><b>504 Plans</b></p> <ul style="list-style-type: none"> <li>● Preferential seating</li> <li>● Extended time on tests and assignments</li> <li>● Reduced homework or classwork</li> <li>● Verbal, visual, or technology aids</li> <li>● Modified textbooks or audio-video materials</li> <li>● Oral assessments</li> </ul> |
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