

# Grade 5: Space Science (Planet Earth)

| Stage 1 Desired Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <p>ESTABLISHED GOALS:</p> <p><u>Competencies:</u><br/> <u>Nature of Science and Engineering</u></p> <ul style="list-style-type: none"> <li>Students will demonstrate the ability to work collaboratively and individually to generate testable questions or define problems, plan and conduct investigations using a variety of research methods in various settings, analyze and interpret data, reason with evidence to construct explanations in light of existing theory and previous research, and effectively communicate the research processes and conclusions.</li> </ul> <p><u>Patterns</u></p> <ul style="list-style-type: none"> <li>Students will demonstrate the ability to observe and describe patterns in natural and human designed phenomena and use those patterns to support claims about the observed or predicted relationships among phenomena.</li> </ul> <p><u>Cause &amp; Effect</u></p> <ul style="list-style-type: none"> <li>Students will demonstrate the ability to investigate, explain, and evaluate potential causal relationships by using evidence to support claims and predictions about the mechanisms that drive those relationships.</li> </ul> <p><u>Content Standards:</u></p> <ul style="list-style-type: none"> <li>5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.</li> <li>5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</li> <li>5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in the length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</li> </ul> | <b>Transfer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                                        | <i>pull, planet, habitable planets, axis, concentric circles, sundial, sun, star, moon, ray, shadow, season, appear, exoplanet, Goldilocks Zone</i> |                                                                                                                                                                                                                                                                                                                                      |
| <b>Content Area Literacy Standards</b> |                                                                                                                                                     | <b>21<sup>st</sup> Century Skills</b>                                                                                                                                                                                                                                                                                                |
| <i>not applicable</i>                  |                                                                                                                                                     | <ul style="list-style-type: none"> <li>• <i>use technology effectively</i></li> <li>• <i>make judgments and decisions</i></li> <li>• <i>solve problems</i></li> <li>• <i>collaborate with others</i></li> <li>• <i>collect and analyze data</i></li> <li>• <i>implement innovations</i></li> <li>• <i>produce results</i></li> </ul> |

| <b>Stage 2 - Evidence</b>  |                            |
|----------------------------|----------------------------|
| <b>Evaluative Criteria</b> | <b>Assessment Evidence</b> |
|                            | PERFORMANCE TASK(S):       |
|                            | OTHER EVIDENCE:            |

| <b>Stage 3 – Learning Plan</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <i>Summary of Key Learning Events and Instruction</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Language Arts Integration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Mathematics Integration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• RI.5.1 - Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text. (5-ESS1-1), (5-PS2-1)</li> <li>• RI.5.7 - Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (5-ESS1-1)</li> <li>• RI.5.8 - Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s). (5-ESS1-1)</li> <li>• RI.5.9 - Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably. (5-ESS1-1), (5-PS2-1)</li> <li>• SL.5.5 - Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes. (5-ESS1-2)</li> <li>• W.5.1 - Write opinion pieces on topics or texts, supporting a point of view with reasons and information. (5-ESS1-1), (5-PS2-1)</li> </ul> | <ul style="list-style-type: none"> <li>• MP.2 - Reason abstractly and quantitatively. (5-ESS1-1), (5-ESS1-2)</li> <li>• MP.4 - Model with mathematics. (5-ESS1-1), (5-ESS1-2)</li> <li>• 5.G.A.2 - Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5-ESS1-2)</li> <li>• 5.NBT.A.2 - Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5-ESS1-1)</li> </ul> |
| <b>Technology Integration</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>District Materials</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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