

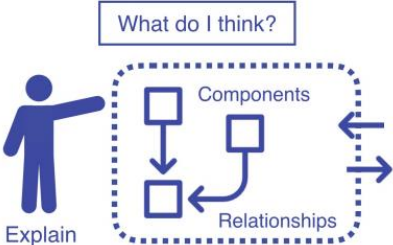
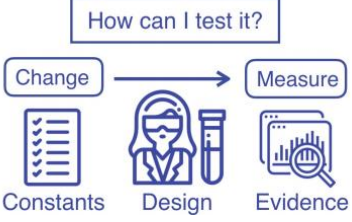

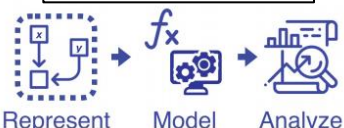






NTPS Next Generation Science Standards Grading Definitions

2nd Grade Report Card Insert

SCIENCE AND ENGINEERING PRACTICES	Physical Science, Life Science, and Earth & Space Science Descriptions of what proficient students KNOW and DO
<p style="text-align: center;">Asking Questions (Science)</p> <p style="text-align: center;">and</p> <p style="text-align: center;">Defining Problems (Engineering)</p>	<p>Students can generate scientific questions about observations, investigations, and conclusions.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>What do I wonder?</p>  <p>Brainstorm Classify Improve</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Students will present a model of a structure to the class and be able to answer such questions as, “what helped your structure stand on its own? Or “Could you build a different structure if needed?”</i></p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>What is the problem?</p>  <p>Problem Criteria Constraints</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Using the criteria and constraints, students will redesign their structure as needed after testing.</i></p> </div> </div>
<p style="text-align: center;">Developing and Using Models</p>	<p>Students create models focused on describing, predicting or explaining the natural world and the relationships of its components (<i>parts</i>).</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>What do I think?</p>  <p>Explain</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Using models of landforms, students will create a map of different land forms (mountains, bodies of water, forest, prairies...) and use that map to explain how flat maps can show where different landforms are located.</i></p> </div> </div>
<p style="text-align: center;">Planning and Carrying Out Investigations</p>	<p>Students design or conduct investigations and gather data. Students make decisions about variables and procedures and refine their plans if necessary.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>How can I test it?</p>  <p>Constants Design Evidence</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Using supplied materials, students will plan an investigation, test the plan, and analyze the data collected to answer questions based on the evidence collected.</i></p> </div> </div>
<p style="text-align: center;">Analyzing and Interpreting Data</p>	<p>Students organize and interpret data to recognize patterns and relationships in the natural and designed world.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>What did I observe?</p>  <p>Organize Analyze Interpret</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Using data collected, students will determine how different materials (wooden sticks, or moss) reacted to different situations (wind and water erosion).</i></p> </div> </div>

<p>Using Mathematics, Information and Computer Technology, and Computational Thinking</p>	<p>Students use mathematical skills, reasoning, and technology to answer a scientific question and support conclusions.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>How can I prove it?</p>  <p>Represent Model Analyze</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Students will measure the height of different plants using centimeters. Students will use milliliters to measure the amount of water supplied to different plants.</i></p> </div>
<p>Constructing Explanations (Science)</p> <p>and</p> <p>Designing Solutions (Engineering)</p>	<p>Students can construct their own explanations of how a phenomenon occurs and design their own solutions to a problem.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>How does it work?</p>  <p>Question Cause Mechanism</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>How can I fix the problem?</p>  <p>Solution Criteria Constraints Refine</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Students explore how wind and water change rocks and soil and are able to supply evidence that support that scientific explanation.</i></p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Example:</p> <p><i>Students design a model that will protect a flower bed and prevent seeds from washing away.</i></p> </div>
<p>Engaging in Argument for Evidence</p>	<p>Students use evidence and reasoning to defend and support their claims and explanations.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>How do I know?</p>  <p>Claim Reasoning Evidence</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Students make a claim, provide reasoning and support with evidence how a bird can pollinate a cactus plant and help move the seeds around.</i></p> </div>
<p>Obtaining, Evaluating, and Communicating Information</p>	<p>Students communicate information, evidence, and ideas in multiple ways.</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>What did I learn?</p>  <p>Obtain Evaluate Communicate</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p>Example:</p> <p><i>Students will research different bodies of water (iceberg, river, and ocean), where these bodies of water are located and what organisms survive in these bodies and will present that research.</i></p> </div>

Each year, students should be able to demonstrate greater capacity for connecting knowledge across, and between, the physical sciences, life sciences, earth and space sciences, and engineering design.

During grades K–2, your child will begin to form connections between concepts and skills such as understanding relationships between objects, planning and carrying out investigations, and constructing explanations.

Upon completion of grades K–2, your child should have a deeper understanding of: • Motion and properties of matter; • Relationship between sound and vibrating materials; • Factors that impact what plants and animals need to survive; and • How objects can be changed or improved through engineering.