

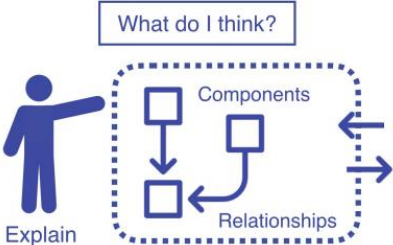
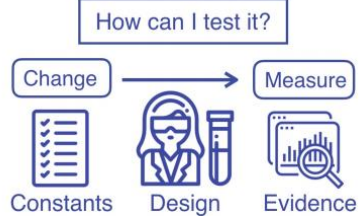

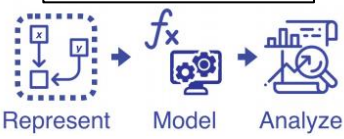
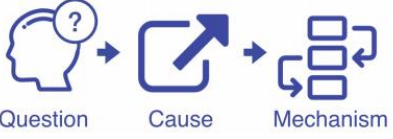





NTPS Next Generation Science Standards Grading Definitions

1st 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 style="border: 1px solid black; padding: 2px;">What do I wonder?</p>  <p>Brainstorm Classify Improve</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Example:</p> <p><i>When participating in an activity, students might ask “Why do we have less hours of daylight in the winter?”</i></p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p style="border: 1px solid black; padding: 2px;">What is the problem?</p>  <p>Problem Criteria Constraints</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Example:</p> <p><i>Students design a new or improved item to help make people’s lives easier.</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 style="border: 1px solid black; padding: 2px;">What do I think?</p>  <p>Explain</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Example:</p> <p><i>Students create a model of the amount of sunlight in each season, use that model to determine the season with the most/ least/ same amount of daylight, and observe patterns and relationships to the weather with each season.</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 style="border: 1px solid black; padding: 2px;">How can I test it?</p>  <p>Constants Design Evidence</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Example:</p> <p><i>Students will plan an investigation to explore the behavior of light when it comes in contact with different materials. Using the data collected, students will discuss how light reacted when directed towards different objects (mirrors, glass of water, balls...)</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 style="border: 1px solid black; padding: 2px;">What did I observe?</p>  <p>Organize Analyze Interpret</p> </div> <div style="border: 1px solid black; padding: 5px; width: 40%;"> <p>Example:</p> <p><i>Students will collect data on items in the sky at different times of the day over a 4 day period. This data will be analyzed to discover patterns over time.</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> </div>  <p>Represent Model Analyze</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Example:</p> <p><i>Students use comparative language (least, most, same as) to determine amount of sunlight each month.</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> </div>  <p>Question Cause Mechanism</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>How can I fix the problem?</p> </div>  <p>Solution Criteria Constraints Refine</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Example:</p> <p><i>Using parts of animals (tortoise shell), students design something (bike helmet) that will help people with tasks in their daily lives.</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> </div>  <p>Claim Reasoning Evidence</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Example:</p> <p><i>While investigating vibrating materials can make sound (rice on a musical card), students can identify the movement of the rice share their reasoning and provide evidence to support their claim that the energy from the card transferred to the rice.</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> </div>  <p>Obtain Evaluate Communicate</p> <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p>Example:</p> <p><i>Through research, students will collect information on a specific animal, organize the information that information, and share through a presentation.</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.