

# Grade 5 TI Science Proficiency Scale – Earth Science

	<b>Novice “1”</b>	<b>Approaching “2”</b>	<b>Proficient “3”</b>	<b>Advanced “4”</b>
<b>Communication</b>	Practices asking questions to help check for understanding in relation to Earth Science concepts.	Asks questions to check for understanding; in relation to Earth Science concepts.	Asks questions to check for understanding; clearly explains strategies thinking and conclusions in relation to Earth Science concepts.	Asks questions to check for understanding; clearly explains strategies, uses relevant information and evidence to support and make conclusions in relation to Earth Science concepts.
<b>Critical Thinking</b>	Participates in whole group reading information about the sun, stars, and moon as well as water on Earth; <u>and</u> observes a model of atmosphere.	Gathers information about the sun, stars, and moon; looking at distance from Earth and patterns in appearance; <u>and</u> gathers relevant information about water and the distribution on Earth and helps design a model of atmosphere to describe patterns and interactions.	Gathers relevant information about the sun, stars, and moon; looking at distance from Earth and patterns in appearance and cites evidence, draw conclusions, explaining their impact on Earth; <u>and</u> gathers relevant information about water and the distribution on Earth and uses systems thinking to design a model of atmosphere to describe patterns and interactions and explains the thinking process and reflect.	Gathers relevant information about the sun, stars, and moon; looking at distance from Earth and patterns in appearance and cites evidence, draws conclusions, and explains their impact on Earth <b>with a depth of understanding</b> ; <u>and</u> gathers relevant information about water and the distribution on Earth <b>with a depth of understanding</b> and uses systems thinking to design a <b>unique and creative</b> model of atmosphere to describe patterns and interactions; and explains the thinking process and reflects.
<p><b>ND Science Standards</b></p> <ul style="list-style-type: none"> <li>• <b>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.</b></li> <li>• <b>5-ESS1-2: Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</b></li> <li>• <b>5-ESS2-1: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</b></li> <li>• <b>5-ESS2-2: Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</b></li> <li>• <b>5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects direction is down.</b></li> </ul>				

# Grade 5 T2 Science Proficiency Scale – Physical Science

	<b>Novice “1”</b>	<b>Approaching “2”</b>	<b>Proficient “3”</b>	<b>Advanced “4”</b>
<b>Communication</b>	Practices asking questions to help check for understanding in relation to Physical Science concepts.	Asks questions to check for understanding in relation to Physical Science concepts.	Asks questions to check for understanding and clearly explains strategies, thinking and conclusions in relation to Physical Science concepts.	Asks questions to check for understanding; clearly explains strategies, uses relevant information and evidence to support and make conclusions in relation to Physical Science concepts.
<b>Critical Thinking</b>	Participates in whole group reading information about the particles that make up matter and how they are conserved despite changes; <u>and</u> observes a model of particles too small to be seen.	Gather information about the properties of materials and identify some of them <u>and</u> Participate in experiments that provide evidence that matter is conserved, and that mix substances <u>and</u> Help develop a model to describe that matter is made of particles too small to be seen.	Gathers relevant information about the properties of materials and identifies them and conducting experiments to provide evidence that matter is conserved and to determine whether mixing substances results in a new substance; <u>and</u> designs and develops a model to describe that matter is made of particles too small to be seen; explains the patterns and connections and reflects.	Gathers relevant information about the properties of materials and identifies them conducting experiments to provide evidence that matter is conserved and to determine whether mixing substances results in a new substance <b>with a depth of understanding</b> ; <u>and</u> designs and develops a <b>unique and creative</b> model to describe that matter is made of particles too small to be seen and explains the patterns and connections <b>with a depth of understanding</b> and reflects.
<p><b>ND Science Standards</b></p> <ul style="list-style-type: none"> <li>• <b>5-PS1-1: Develop a model to describe that matter is made of particles too small to be seen.</b></li> <li>• <b>5-PS1-2: Measure and graph metric quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.</b></li> <li>• <b>5-PS1-3: Make observations and measurements to identify materials based on their properties.</b></li> <li>• <b>5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances.</b></li> </ul>				

## Grade 5 T3 Science Proficiency Scale – Life Science

	<b>Novice “1”</b>	<b>Approaching “2”</b>	<b>Proficient “3”</b>	<b>Advanced “4”</b>
<b>Communication</b>	Practices asking questions to help check for understanding in relation to Life Science concepts.	Asks questions to check for understanding in relation to Life Science concepts.	Asks questions to check for understanding; clearly explains strategies, thinking and conclusions in relation to Life Science concepts.	Asks questions to check for understanding; clearly explains strategies, uses relevant information and evidence to support and make conclusions in relation to Life Science concepts.
<b>Critical Thinking</b>	Participates in whole group reading information on contagions and containment strategies, food chains and food webs; <u>and</u> contributes to building a solution for a potential pollution and contagious problem.	Gathers information to design a food web including the sun, plants, animals, & decomposers and analyzes and designs a solution to a potential pollution problem; <u>and</u> gathers information about the source of a contagion; <u>and</u> helps determine potential containment strategies.	Gathers relevant information to design a food web including the sun, plants, animals, & decomposers and explains the connections and analyzes, designs, and redesigns a solution to a potential pollution problem using systems thinking to structure the parts of a comprehensive system and explains the thinking process and reflects; <u>and</u> gathers relevant information, cites evidence and draws conclusions about the source of a contagion; <u>and</u> analyzes and determines potential containment strategies using the scientific inquiry process.	Gathers relevant information to design a food web including the sun, plants, animals, & decomposers and explains the connections and analyzes, designs, and redesigns a <b>unique and creative</b> solution to a potential pollution problem using systems thinking to structure the parts of a comprehensive system; <b>and shows understanding of the impact of decisions about materials and process used to create the solution</b> and explains the thinking process and reflects; <u>and</u> gathers relevant information, cites evidence and draws conclusions about the source of a contagion; <u>and</u> analyzes and determines potential containment strategies using the scientific inquiry process, <b>with depth of understanding.</b>
<p><b>ND Science Standard</b></p> <ul style="list-style-type: none"> <li>• <b>5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water.</b></li> <li>• <b>5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</b></li> <li>• <b>5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment</b></li> </ul>				