

# Prince George County Public Schools

## Fourth Grade Science Pacing Guide

***SOLs should be taught so that each student will have mastered that particular SOL by the end of the nine week period. The skills listed in each nine weeks will be assessed unless designated as Introduced or Not Tested.***

First Nine Weeks	Second Nine Weeks
<p><i>The student will...</i></p> <p>4.1... demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which</p> <ol style="list-style-type: none"> <li>a) distinctions are made among observations, conclusions, inferences, and predictions;</li> <li>b) objects or events are classified and arranged according to characteristics or properties;</li> <li>c) appropriate instruments are selected to measure length, mass, volume, and temperature in metric units;</li> <li>d) appropriate instruments are selected to measure elapsed time</li> <li>e) predictions and inferences are made, and conclusions are drawn based on data from a variety of sources;</li> <li>f) independent and dependent variables are identified</li> <li>g) constants in an experimental situation are identified;</li> <li>h) hypotheses are developed as cause and effect relationships;</li> <li>i) data are collected, recorded, analyzed, and displayed using bar and basic line graphs</li> <li>j) numerical data that are contradictory or unusual in experimental results are recognized;</li> <li>k) data are communicated with simple graphs, pictures, written statements, and numbers;</li> <li>l) models are constructed to clarify explanations, demonstrate relationships, and solve needs;</li> <li>m) current applications are used to reinforce science concepts</li> </ol> <p><b>4.1 Introduced ► NOT Tested</b></p> <p>4.6...investigate and understand how weather conditions and phenomena occur and can be predicted. Key concepts include</p> <ol style="list-style-type: none"> <li>a) weather phenomena;</li> <li>b) weather measurements and meteorological; and</li> <li>c) uses of weather measurements and weather phenomena to make weather predictions</li> </ol> <p>4.9...investigate and understand important Virginia natural resources. Key concepts include</p> <ol style="list-style-type: none"> <li>a) watershed and water resources;</li> <li>b) animals and plants;</li> <li>c) minerals, rocks, ores, and energy sources; and</li> <li>d) forests, soil, and land.</li> </ol>	<p><i>The student will...</i></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 10px;">4.1</div> → Extend objective from 1 <sup>st</sup> nine weeks

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Third Nine Weeks	Fourth Nine Weeks
<p><i>The student will...</i></p> <p><span style="border: 1px solid black; padding: 2px;">4.1</span> ⇒ Extend objective from 1<sup>st</sup> and 2<sup>nd</sup> nine weeks</p> <p>4.4...investigate and understand basic plant anatomy and life processes. Key concepts include</p> <ul style="list-style-type: none"> <li>a) the structures of typical plants and the function of each structure;</li> <li>b) processes and structures involved with reproduction;</li> <li>c) photosynthesis; and</li> <li>d) adaptation allow plants to satisfy life needs and respond to the environment</li> </ul> <p>4.7...investigate and understand the organization of the solar system. Key concepts include</p> <ul style="list-style-type: none"> <li>a) planets of the solar system;</li> <li>b) the order of the planets in the solar system; and</li> <li>c) the relative sizes of the planets</li> </ul> <p>4.8...investigate and understand the relationships among the Earth, moon, and sun. Key concepts include</p> <ul style="list-style-type: none"> <li>a) the motions of the Earth, moon, and sun;</li> <li>b) the causes for the Earth's seasons;</li> <li>c) the causes for the phases of the moon;</li> <li>d) the relative size, position, age, and makeup of the Earth, moon, and sun; and</li> <li>e) historical contributions in understanding the Earth-moon-sun system.</li> </ul>	<p><i>The student will...</i></p> <p><span style="border: 1px solid black; padding: 2px;">4.1</span> ⇒ Extend objective from 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> nine weeks</p> <p>4.5...investigate and understand how plants and animals, including humans, in an ecosystem interact with one another and the nonliving components in the ecosystem. Key concepts include</p> <ul style="list-style-type: none"> <li>a) plant and animal adaptations;</li> <li>b) organization of population, communities, and ecosystems and how they interrelate;</li> <li>c) flow of energy through food webs;</li> <li>d) habitats and niches;</li> <li>e) changes in an organism's niche at various stages in its life cycles; and</li> <li>f) influence of human activity on ecosystems</li> </ul>