

**Pennsylvania Academic Standards for Science and Technology**  
**Curriculum: *Advancing in Forestry***

Lesson	Academic Standards	Grade Level	Activities
<b>Forest Stewardship</b>	3.1.4.C. Illustrate patterns that regularly occur and reoccur in nature.	4	Learn how various forest management practices affect the water cycle, erosion, and wildlife habitat. Realize that some of these practices are prohibited by law. Understand that forest recreation is a growing industry and must be managed properly. Define carrying capacity and understand how it affects wildlife in the forest. Understand that forests play a large role in Pennsylvania industry.
	3.1.4.E. Recognize change in natural and physical systems.	4	
	3.3.4.A. Know the similarities and differences of living things.	4	
	3.3.7.A. Describe the similarities and differences that characterize diverse living things.	7	
	3.3.4.D. Identify changes in living things over time.	4	
	3.5.4.A. Know basic landforms and Earth history.	4	
	3.5.4.D. Recognize the Earth's different water resources.	4	
	3.5.7.D. Explain the behavior and impact of the earth's water systems.	7	

<b>Silviculture</b>	3.1.4.A. Know that natural and human-made objects are made up of parts.	4	Understand the difference between pure and mixed stands, as well as even and uneven-aged stands. Learn to classify trees based on crown levels. Identify stand treatments and why they are used.
	3.2.4.B. Describe objects in the world using the five senses.	4	
	3.3.4.A. Know the similarities and differences of living things.	4	
	3.3.7.A. Describe the similarities and differences that characterize diverse living things.	7	
<b>Forest Products</b>	3.4.4.A. Recognize basic concepts about the structure and properties of matter.	4	Understand that wood is a renewable resource. Identify the steps involved in timber harvesting, and how to practice logging safety. Learn how wood goes through various processes to become a finished product. Identify some products made from wood, or other parts of trees. Learn why we recycle and how paper products are recycled.
	3.5.4.B. Know types and uses of earth materials.	4	
	3.5.7.B. Describe earth features and processes.	7	
	3.6.4.C. Know physical technologies of structural design, analysis, and engineering, finance, production, marketing, research, and design.	4	

<p><b>Forest Products</b> (continued)</p>	<p>3.6.7.C. Explain physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design.</p> <p>3.7.4.A. Explore the use of basic tools, simple materials and techniques to safely solve problems.</p>	<p>7</p> <p>4</p>	
<p><b>Forest Insects and Diseases</b></p>	<p>3.1.4.E. Recognize change in natural and physical systems.</p> <p>3.3.4.D. Identify changes in living things over time.</p>	<p>4</p> <p>4</p>	<p>Understand that although many insects play an important role in forests, some can be very damaging. Learn ways insects harm trees, as well as ways to suppress and prevent insect outbreaks. Identify differences between biotic and abiotic disease agents and give examples of each.</p>
<p><b>Fire!</b></p>	<p>3.1.4.C. Illustrate patterns that regularly occur and reoccur in nature.</p>	<p>4</p>	<p>Understand what conditions are necessary for fires to burn and in which weather conditions fires are most likely to burn.</p>

<b>Fire!</b> (continued)	3.1.4.E. Recognize change in natural and physical systems.	4	Identify three types of forest fires. Learn how firefighters control fires and try to prevent them. Learn how fires can benefit a forest.
	3.4.4.B. Know basic energy types, sources, and conversions.	4	
	3.5.4.C. Know basic weather elements.	4	