

**Unit # - 6 – Environment and Ecology (4 weeks)**

<b>Standards Addressed</b>	<b>Student Learning Objectives For this Unit</b>	<b>Content Skills and Knowledge</b>	<b>Learning Activities and Instructional Strategies</b>
<p>NSES Standards: Earth &amp; Space Science Science as Inquiry Science &amp; Technology History and Nature of Science Life Science</p> <p>PA STEE Standards: 3.2.7.A (sci. k) 3.2.7.B (app k) 3.3.7.D (nat sel) 3.3.10.D (evolu) 3.4.7.B (e ht trn) 3.1.7.B (models) 3.7.7.B (instr) 4.8..A 4.8.B 4.8.C 4.2.D</p> <p>1.2 read crit 1.4 writing 1.8 presentation</p>	<p>Note:</p> <ul style="list-style-type: none"> <li>▪ The recommendation of the science curriculum committee is that this unit would consist of a <b>survey</b> of the dominant environmental issues of our time (see table below). ONE issue would be selected by the teacher to receive an in-depth study.</li> <li>▪ Additionally, the committee felt that this unit would be an ideal unit for student selected, individual or group, research reports about any of these major environmental concerns. Student presentations would also be an option.             <ul style="list-style-type: none"> <li>• Ex. 2 student groups with 3 10-minute presentations per day would take 5 days for a class of 28 students</li> </ul> </li> </ul> <p><b>Environmental Concerns:</b></p> <ul style="list-style-type: none"> <li>▪ <u>Atmosphere:</u> <ul style="list-style-type: none"> <li>○ Global Warming</li> <li>○ Ozone Depletion</li> <li>○ Air Pollution</li> </ul> </li> <li>▪ <u>Water</u> <ul style="list-style-type: none"> <li>○ Ocean Pollution</li> <li>○ Fresh Water Pollution</li> </ul> </li> <li>▪ <u>Land</u> <ul style="list-style-type: none"> <li>○ Soil Conservation</li> <li>○ Landfill Issues</li> <li>○ Habitat Loss</li> </ul> </li> <li>▪ <u>Conservation</u> <ul style="list-style-type: none"> <li>○ Energy Consumption</li> <li>○ Biodiversity</li> <li>○ Human Population</li> <li>○ Material Consumption &amp; Recycling</li> </ul> </li> </ul>	<p>Some possible areas to be covered:</p> <p>A. Explain how technology has influenced the sustainability of natural resources over time.</p> <ul style="list-style-type: none"> <li>• Describe how technology has changed the use of natural resources by business and industry.</li> <li>• Analyze the effect of natural resource conservation on a product over time (e.g., automobile manufacturing, aluminum can recycling, paper products).</li> </ul> <p>B. Analyze technology’s role on natural resource sustainability.</p> <ul style="list-style-type: none"> <li>• Explain how technology has decreased the use of raw natural resources.</li> <li>• Explain how technology has impacted the efficiency of the use of natural resources.</li> <li>• Analyze the role of technology in the reduction of pollution.</li> </ul> <p>C. Analyze how pollution has changed in quality, variety and toxicity as the United States developed its industrial base.</p> <ul style="list-style-type: none"> <li>• Analyze historical pollution trends and project them for the future.</li> <li>• Compare and contrast historical and current pollution levels at a given location.</li> </ul> <p>D. Analyze the international implications of environmental occurrences.</p> <ul style="list-style-type: none"> <li>• Identify natural occurrences that have international impact (e.g., El Nino, volcano eruptions, earthquakes).</li> <li>• Analyze environmental issues and their international implications.</li> </ul>	<p>Possible Strategies:</p> <ul style="list-style-type: none"> <li>▪ Individual or group research papers</li> <li>▪ Individual or group presentations.</li> <li>▪ Multimedia presentations             <ul style="list-style-type: none"> <li>○ Video</li> <li>○ PowerPoint</li> <li>○ Audio</li> <li>○ Song</li> <li>○ Performance</li> </ul> </li> </ul>