

Unit: Testing, Evaluating, and Refining	Concept: Sustainability
<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>3.5.9-12.D Critique whether existing or proposed technologies use resources sustainably.</li> </ul>	
<p><b>Key Learning</b></p> <ul style="list-style-type: none"> <li>(LTTG) Students will be able to investigate better solutions through a belief that opportunities can be found in every challenge.</li> </ul>	<p><b>Unit Essential Question</b></p> <ul style="list-style-type: none"> <li>How can I investigate better solutions through a belief that opportunities can be found in every challenge?</li> </ul>
<p><b>Essential Question</b></p> <ul style="list-style-type: none"> <li>Why is it important to sustainably manage technological resources?</li> </ul>	
<p><b>Key Vocabulary</b></p> <ul style="list-style-type: none"> <li>Critique, Sustainability, Evaluate, and Investigate</li> </ul>	
<p><b>Learning Experience</b></p> <ul style="list-style-type: none"> <li>Students who demonstrate understanding can critique whether existing or proposed technologies use resources sustainably</li> <li>Clarifying Statement: By applying the evaluative tools described above, students can investigate ways that resources used to create and operate a given technology can be improved to enhance the sustainability of the technology. For example, they could evaluate how students are currently transported to and from school and devise ways to reduce fuel use. Strategies could include promoting bike riding by installing covered bike racks, re-routing vehicles to avoid long wait times, shifting school bus schedules to prevent extended idling times, and so on.</li> </ul>	
<p><b>(Big Idea) Technology &amp; Engineering Curriculum Framework Big Ideas</b></p> <ul style="list-style-type: none"> <li>Responsible creation and use of technology requires the sustainable use of renewable and non-renewable resources and handling of waste.</li> </ul>	
<p><b>(SEP) Science and Engineering Practices</b></p> <ul style="list-style-type: none"> <li>Engaging in Argument From Evidence - Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments.</li> </ul>	
<p><b>(DCI) Disciplinary Core Ideas</b></p> <ul style="list-style-type: none"> <li>HS-ESS3-3 - Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.</li> </ul>	
<p><b>(TEP) Technology and Engineering Practices</b></p> <ul style="list-style-type: none"> <li>Attention to Ethics - Assesses technological products, systems, and processes through critical analysis of their impacts and outcomes.</li> </ul>	

**Terms**

- (ETS) Engineering, Technology, and Applications of Science – Standards applicable across the Science, Environmental Literacy & Sustainability, and Technology & Engineering content areas.
- (LTTG) PDE Technology & Engineering Long Term Transfer Goals
- (Learning Experience) A learning experience refers to any interaction, activity, or other experience in which students acquire new understanding, knowledge, behaviors, or skills.
- (Big Idea #) PDE Technology & Engineering Curriculum Framework Big Ideas
- (SEP) PDE Science and Engineering Practices
- (DCI) PDE Disciplinary Core Ideas
- (TEP) PDE Technology and Engineering Practices