

Unit: Design and Creation of Multimedia	Concept: Experimentation and Development
<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>3.5.9-12.N Analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems.</li> <li>3.5.9-12.P Apply a broad range of design skills to a design thinking process.</li> <li>3.5.9-12.Y (ETS) Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.</li> <li>3.5.9-12.X Implement the best possible solution to a design using an explicit process.</li> </ul>	
<p><b>Key Learning</b></p> <ul style="list-style-type: none"> <li>(LTTG) Students will be able to employ hands-on problem solving, i.e., designing, making/building, producing, and evaluating outcomes.</li> <li>(LTTG) Students will be able to collaborate as part of a team, valuing the contributions of all members.</li> </ul>	<p><b>Unit Essential Question</b></p> <ul style="list-style-type: none"> <li>How can I employ hands-on problem solving, i.e., designing, making/building, producing, and evaluating outcomes?</li> <li>How can I collaborate as part of a team, valuing the contributions of all members?</li> </ul>
<p><b>Essential Question</b></p> <ul style="list-style-type: none"> <li>How can I use experimentation to design and develop effective multimedia designs?</li> </ul>	
<p><b>Key Vocabulary</b></p> <ul style="list-style-type: none"> <li>Experimentation, Development, Practice, Format, Multi-Side Designs, Two Dimensional, Three Dimensional, and Modeling</li> </ul>	
<p><b>Learning Experience</b></p> <ul style="list-style-type: none"> <li>Students will experiment with design principles, experiment with tools and technical skills, experiment with fundamental elements of design, experiment with expressing their creative ideas, experiment with custom fonts, experiment with color, and experiment with visual effects to design, develop, and create design solutions.</li> </ul>	
<p><b>(Big Idea) Technology &amp; Engineering Curriculum Framework Big Ideas</b></p> <ul style="list-style-type: none"> <li>The needs and wants of society often shape technology and engineering developments.</li> </ul>	
<p><b>(SEP) Science and Engineering Practices</b></p> <ul style="list-style-type: none"> <li>Constructing Explanations and Designing Solutions - Design, evaluate, and/or refine a solution to a complex real-world problem, based on scientific knowledge, student-generated sources of evidence, prioritized criteria, and trade-off considerations.</li> </ul>	
<p><b>(DCI) Disciplinary Core Ideas</b></p> <ul style="list-style-type: none"> <li>NAEP D.12.6 - Engineering design is a complicated process in which creative steps are embedded in content knowledge and research on the challenge. Decisions on trade-offs involve systematic comparisons of all costs and benefits, and final steps may involve redesigning for optimization.</li> </ul>	

**(TEP) Technology and Engineering Practices**

- Making and Doing - Demonstrates the ability to regulate and improve making and doing skills.

**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