

Unit: Multimedia Layout and Design	Concept: Computer Modeling
<p><b>Standard</b></p> <ul style="list-style-type: none"> <li>3.5.9-12.PP Demonstrate the use of conceptual, graphical, virtual, mathematical, and physical modeling to identify conflicting considerations before the entire system is developed and to aid in design decision making.</li> </ul>	
<p><b>Key Learning</b></p> <ul style="list-style-type: none"> <li>(LTTG) Students will be able to apply investigation, imagination, innovative thinking, and physical skills to accomplish goals.</li> </ul>	<p><b>Unit Essential Question</b></p> <ul style="list-style-type: none"> <li>How can I apply investigation, imagination, innovative thinking, and physical skills to accomplish goals?</li> </ul>
<p><b>Essential Question</b></p> <ul style="list-style-type: none"> <li>Why is it important to understand, use, assess, and create technological products, systems, and ways of thinking?</li> </ul>	
<p><b>Key Vocabulary</b></p> <ul style="list-style-type: none"> <li>Model, Prototype, Graphical, Virtual, Mathematical, Physical, Troubleshooting, and Simulation</li> </ul>	
<p><b>Learning Experience</b></p> <ul style="list-style-type: none"> <li>Students who demonstrate understanding can demonstrate the use of conceptual, graphical, virtual, mathematical, and physical modeling to identify conflicting considerations before the entire system is developed and to aid in design decision making.</li> <li>Clarifying Statement: When making final decisions for designs, it is important to consider all relationships between design choices and end product results. Models and prototypes of all kinds can be useful in troubleshooting these relationships prior to developing final solutions. These models can vary from high-tech software to low-cost physical models of solutions.</li> </ul>	
<p><b>(Big Idea) Technology &amp; Engineering Curriculum Framework Big Ideas</b></p> <ul style="list-style-type: none"> <li>The study of technology and engineering involves the ability to understand, use, assess, and create technological products, systems, and ways of thinking.</li> </ul>	
<p><b>(SEP) Science and Engineering Practices</b></p> <ul style="list-style-type: none"> <li>Developing &amp; Using Models - Develop, revise, and/or use a model based on evidence to illustrate and/or predict the relationships between systems or between components of a system.</li> </ul>	
<p><b>(DCI) Disciplinary Core Ideas</b></p> <ul style="list-style-type: none"> <li>ISTE 6C - Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.</li> </ul>	
<p><b>(TEP) Technology and Engineering Practices</b></p> <ul style="list-style-type: none"> <li>Making and Doing - Demonstrates the ability to regulate and improve making and doing skills.</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