

Unit: Experimentation and Development	Concept: Design Solution
Standard <ul style="list-style-type: none"> 3.5-9-12.X Implement the best possible solution to a design using an explicit process. 	
Key Learning <ul style="list-style-type: none"> (LTTG) Students will be able to employ hands-on problem solving, i.e., designing, making/building, producing, and evaluating outcomes. 	Unit Essential Question <ul style="list-style-type: none"> How can I employ hands-on problem solving, i.e., designing, making/building, producing, and evaluating outcomes?
Essential Question <ul style="list-style-type: none"> Why is there no single correct solution in design? 	
Key Vocabulary <ul style="list-style-type: none"> Optimization, Explicit Process, and Design 	
Learning Experience <ul style="list-style-type: none"> Students who demonstrate understanding can implement the best possible solution to a design using an explicit process. Clarifying Statement: Students design within provided criteria and constraints and recognize trade-offs associated with optimization. 	
(Big Idea) Technology & Engineering Curriculum Framework Big Ideas <ul style="list-style-type: none"> There is no single, best solution as designs can always be improved and refined. 	
(SEP) Science and Engineering Practices <ul style="list-style-type: none"> 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. 	
(DCI) Disciplinary Core Ideas <ul style="list-style-type: none"> NAEP D.12.8 - Meet a sophisticated design challenge by identifying criteria and constraints, predicting how these will affect the solution, researching and generating ideas, and using trade-offs to balance competing values in selecting the best solution. ISTE 4C - Students develop, test and refine prototypes as part of a cyclical design process. 	
(TEP) Technology and Engineering Practices <ul style="list-style-type: none"> Making and Doing - Demonstrates the ability to regulate and improve making and doing skills. Optimism - Shows persistence in addressing technological problems and finding solutions to those problems. 	
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