

Unit: Experimentation and Development	Concept: Development
Standard <ul style="list-style-type: none"> 3.5.9-12.M Develop a device or system for the marketplace. 	
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"> How does technology and engineering address the needs and wants of society? 	
Key Vocabulary <ul style="list-style-type: none"> Develop, Device, System, Marketplace, Research & Development, and Production 	
Learning Experience <ul style="list-style-type: none"> Students who demonstrate understanding can develop a device or system for the marketplace. Clarifying Statement: Research on specific topics of interest to the government or business and industry can provide more information on a subject, and, in many cases, can provide information needed to create an invention or innovation. R&D helps to prepare a product or system for final production. Product development of this type frequently requires sustained effort from teams of people having diverse backgrounds. 	
(Big Idea) Technology & Engineering Curriculum Framework Big Ideas <ul style="list-style-type: none"> The needs and wants of society often shape technology and engineering developments. 	
(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.12.6 - 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. 	
(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. 	
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