Unit: Technological Design Process	Concept: Technological Design Process

Standard
- 3.5.9-12.N Analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems.

Key Learning
- (LTTG) Students will be able to analyze a problem in its entirety while recognizing the subcomponents interacting with human-made and natural environments.

Unit Essential Question
- How can I analyze a problem in its entirety while recognizing the subcomponents interacting with human-made and natural environments?

Essential Question
- How are requisite skills applied in technology and engineering design?

Key Vocabulary
- Analysis, Use, Requisite Skill, Empathy, Ideation, and Design Thinking

Learning Experience
- Students who demonstrate understanding can analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems.
- Clarifying Statement: High school students can benefit from examining relationships to technology in other cultures, such as the access (or lack of access) to technologies in specific cultures. For example, people in many locations around the world lack ready access to clean water. Strategies to address this problem will vary according to the resources and circumstances of a given location.

(Big Idea) Technology & Engineering Curriculum Framework Big Ideas
- There are requisite skills used in technology and engineering design.

(SEP) Science and Engineering Practices
- 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
- 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.

(TEP) Technology and Engineering Practices

- Critical Thinking - Uses evidence to better understand and solve problems in technology and engineering, including applying computational thinking.

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