Unit: Applying Design Principles	Concept: Human-Centered Design

Standard

- 3.5.9-12.V Apply principles of human-centered design.

Key Learning	Unit Essential Question
• (LTTG) Students will be able to demonstrate integrity and conscientiousness, considering ethical issues involved.	• How can I demonstrate integrity and conscientiousness, considering ethical issues involved?

Essential Question

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

Key Vocabulary

- Human-Centered Design, Principle, Relationship, Designed Environment, Ergonomics, Designing, Constructing, and Implementing

Learning Experience

- Students who demonstrate understanding can apply principles of human-centered design.
- Clarifying Statement: Students consider the relationship between humans and the designed environment while designing, constructing, and implementing a solution. Students will synthesize their understanding of human-centered design through critical evaluation of design decisions and their appropriateness for the intended users.

(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

- ETS1.A: Defining and Delimiting Engineering Problems - Criteria and constraints also include satisfying any requirements set by society, such as taking issues of risk mitigation into account, and they should be quantified to the extent possible and stated in such a way that one can tell if a given design meets them.

(TEP) Technology and Engineering Practices

- Creativity - Elaborates and articulates novel ideas and aesthetics.
- Attention to Ethics - Assess technological products, systems, and processes through critical analysis of their impacts and outcomes.

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