Concept: Project Planning

Standard

 3.5.9-12.I (ETS) Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

Key Learning

 (LTTG) Students will be able to apply investigation, imagination, innovative thinking, and physical skills to accomplish goals.

Unit Essential Question

 How can I apply investigation, imagination, innovative thinking, and physical skills to accomplish goals?

Essential Question

How can one assess the impact of technology and engineering on society?

Key Vocabulary

• Prioritized Criteria, Trade Offs, and Aesthetics

Learning Experience

- Students who demonstrate understanding can evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.
- Clarifying Statement: When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.

(Big Idea) Technology & Engineering Curriculum Framework Big Ideas

• Technology and engineering have both positive and negative impacts on society and the environment.

(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.B: Developing Possible Solutions - When evaluating solutions, it is important to take into account a range of constraints, including cost, safety, reliability, and aesthetics, and to consider social, cultural, and environmental impacts.

(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