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| <p>Unit: Design and Creation of Digital Graphics</p> | <p>Concept: Testing, Evaluating, and Refining Designs</p> |
| <p>Standards</p> <ul style="list-style-type: none"> • 3.5.9-12.N Analyze and use relevant and appropriate design thinking processes to solve technological and engineering problems. • 3.5.9-12.P Apply a broad range of design skills to a design thinking process. • 3.5.9-12.Y (ETS) Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. • 3.5.9-12.X Implement the best possible solution to a design using an explicit process. | |
| <p>Key Learning</p> <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. • (LTTG) Students will be able to collaborate as part of a team, valuing the contributions of all members. | <p>Unit Essential Question</p> <ul style="list-style-type: none"> • How can I employ hands-on problem solving, i.e., designing, making/building, producing, and evaluating outcomes? • How can I collaborate as part of a team, valuing the contributions of all members? |
| <p>Essential Question</p> <ul style="list-style-type: none"> • How can I test, evaluate, and refine digital graphic designs? | |
| <p>Key Vocabulary</p> <ul style="list-style-type: none"> • Examine, Evaluate Usability, Self-Evaluation, Optimization, Trade-offs, Craftsmanship, Critique, User Experience, End-User, Function, Judgments, Decisions, Flexibility, Modifying, and Adaptability | |
| <p>Learning Experience</p> <ul style="list-style-type: none"> • Design is not measured in terms of right or wrong, but rather by the degree of success demonstrated in problem solving. Students will examine, test, evaluate, and refine their design solutions to ensure they work, are neat, clean, accurate, and functional, communicate the intended message, and meet the needs and wants of the end-user. Students will utilize self-evaluation tools and questions to examine and evaluate their design solutions. | |
| <p>(Big Idea) Technology & Engineering Curriculum Framework Big Ideas</p> <ul style="list-style-type: none"> • Technology and engineering have both positive and negative impacts on society and the environment. | |
| <p>(SEP) Science and Engineering Practices</p> <ul style="list-style-type: none"> • Engaging in Argument From Evidence - Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments. | |
| <p>(DCI) Disciplinary Core Ideas</p> <ul style="list-style-type: none"> • HS-LS2-7 - Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. | |

- NAEP T.12.4 - Analyze cultural, social, economic, or political changes (separately or together) that may be triggered by the transfer of a specific technology from one society to another. Include both anticipated and unanticipated effects.

(TEP) Technology and Engineering Practices

- Attention to Ethics - Assesses 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