Unit: Design and Creation of Multimedia	Concept: Apply Design Principles

Standard
- 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.

Key Learning
- (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.

Unit Essential Question
- 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?

Essential Question
- How can I apply design principles to create effective multimedia designs?

Key Vocabulary
- Balance, Visual Hierarchy, Focal Point, Contrast, Unity, Repetition, Alignment, Proximity, Spatial Depth, Illusion, Grid, and Template

Learning Experience
- Students will model, practice, and apply balance, visual hierarchy, focal point, contrast, unity, repetition, alignment, proximity, spatial depth, illusion, grid, and template to design, develop, and create effective designs.

(Big Idea) Technology & Engineering Curriculum Framework Big Ideas
- There are universal principles and elements of 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
- 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
- Attention to Ethics - Assesses technological products, systems, and processes through critical analysis of their impacts and outcomes.
- 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