Unit: Design and Creation of Multimedia	Concept: Applying Knowledge and Technical Skills

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 multimedia design knowledge and technical skills to create effective multimedia designs?

Key Vocabulary
- Content Knowledge, Content Skills, Critical Thinking, Problem Solving, Design, Guidelines, Form, Function, Locating, Selecting, Creating, Adjusting, Producing, and Applying

Learning Experience
- Students will model, practice, and apply multimedia knowledge, selection tools, marquee tools, lasso tools, cropping tools, photo editing tools, eraser tools, painting tools, color tools, brush tools, pen tools, type tools, shape tools, magnification tools, image tools, layer tools, effect tools, filter tools, and / or blending options to design, develop, and create custom designs.

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

(SEP) Science and Engineering Practices
- Using Mathematics and Computational Thinking - Use mathematical models and/or computer simulations to predict the effects of a design solution on systems and/or the interactions between systems.

(DCI) Disciplinary Core Ideas
- ETS1.B: Developing Possible Solutions - Both physical models and computers can be used in various ways to aid in the engineering design process.

- NAEP D.12.17 - Analyze a system malfunction using logical reasoning (such as a fault tree) and appropriate diagnostic tools and instruments. Devise strategies and recommend tools for fixing the problem.

(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