Unit: Design and Creation of Digital Graphics	Concept: Layout and Design

Standards

- 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 layout and design digital graphic applications to create effective designs?

Key Vocabulary

- Initiative, Planning, Self-Direction, Brainstorming, Audience, Creative Thinking, Layout, Theme, Criteria, and Constraints

Learning Experience

- Students will design, develop, and create effective designs that convey a message to an audience, is a visual representation of an idea, and relies on the creation, selection, and organization of visual elements.

(Big Idea) Technology & Engineering Curriculum Framework Big Ideas

- Decisions made about technology and engineering involve consideration of costs, benefits, and tradeoffs.

(SEP) Science and Engineering Practices

- Asking Questions and Defining Problems - Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions.

(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

- Asking Questions and Defining Problems - Define a simple problem that can be solved through the development of a new or improved object or tool.

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