Unit: Applying Digital Graphics Knowledge and Skills

Concept: Applying Technical Skills

Standard

• 3.5.9-12.E Evaluate how technology and engineering advancements alter human health and capabilities.

Key Learning

 (LTTG) Students will be able to demonstrate integrity and conscientiousness, considering ethical issues involved.

Unit Essential Question

 How can I demonstrate integrity and conscientiousness, considering ethical issues involved?

Essential Question

• How does changing technology impact the individual, culture, and environment?

Key Vocabulary

Evaluate, Advancement, Alteration, Capability, Examine, Effect, and Impact

Learning Experience

- Students who demonstrate understanding can evaluate how technology and engineering advancements alter human health and capabilities.
- Clarifying Statement: Evaluative tools can be used to examine existing or proposed technologies to assess
 their positive and negative effects on humans. For example, CRISPR-Cas9 technology has been hailed as a tool
 for modifying human genetic material to reduce the risk of inherited disease. At the same time, there are
 medical and ethical concerns surrounding application of this technology to humans.

(Big Idea) Technology & Engineering Curriculum Framework Big Ideas

• Use of technology can lead to fundamental changes in individuals, human cultures, and the environment.

(SEP) Science and Engineering Practices

• Engaging in Argument From Evidence - Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments.

(DCI) Disciplinary Core Ideas

• NAEP T.12.13 - Disparities in the technologies available to different groups of people have consequences for public health and prosperity, but deciding whether to introduce a new technology should consider local resources and the role of culture in acceptance of the new technology.

(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