Unit 6 Copy: Design

Content Area: **Unified Arts**
Course(s): **Computer Science 3**
Time Period: **May**
Length: **5 Days**
Status: **Published**

Unit Summary

In this unit, students will understand the design process as a systematic approach to solving problems.

Student Learning Objectives

Students will learn to:

- develop a product using an online simulation that explores the design process.
- design an alternative use for an existing product.
- explain the positive and negative effect of products and systems on humans, other species, and the environment.
- compare and contrast how technology transfer happens within a technology, among technologies, and among other fields of study.
- examine a malfunctioning tool/technology and use a step-by-step process to troubleshoot and present options to repair the product.
- evaluate the function, value, and aesthetics of a technological product, system, or environment from the perspective of the user and the producer.

Essential Questions

- How can one develop a solution for a problem using the design process?
- How can one improve a product/process through the reflection/iteration process?
- Why is asking questions about the world an important characteristic/component of the design process?
- How does one communicate/collaborate as a part of team to implement the design process?

Enduring Understandings

Students will understand that:

- the design process is a systematic approach to solving problems.
- the designed world is the product of a design process that provides the means to convert resources into products and systems.

Application

Students will be able to independently use their learning to:

- find new and inventive uses for existing products.

- perform basic troubleshooting steps to diagnose malfunctioning technology/tools.
- design a new product through the use of online simulation tools.

Skills

Students will be skilled at:

- creatively repurposing existing products.
- following troubleshooting steps.
- modeling new products using digital tools.