8 Computer Science Unit 04: Gaming

Content Area: **Technology**
Course(s):
Time Period: **December**
Length: **3 Weeks**
Status: **Published**

Unit Overview

- Computer Programming
- Design Process
- Team Building

Standards

8.1.8.CS.1	Recommend improvements to computing devices in order to improve the ways users interact with the devices.
8.1.8.CS.2	Design a system that combines hardware and software components to process data.
8.1.8.CS.3	Justify design decisions and explain potential system trade-offs.
8.1.8.CS.4	Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems.
8.1.8.IC.1	Compare the trade-offs associated with computing technologies that affect individual's everyday activities and career options.
8.1.8.IC.2	Describe issues of bias and accessibility in the design of existing technologies.
8.1.8.DA.1	Organize and transform data collected using computational tools to make it usable for a specific purpose.
8.1.8.DA.5	Test, analyze, and refine computational models.
8.1.8.AP.1	Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.
8.1.8.AP.2	Create clearly named variables that represent different data types and perform operations on their values.
8.1.8.AP.3	Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.
8.1.8.AP.4	Decompose problems and sub-problems into parts to facilitate the design, implementation, and review of programs.
8.1.8.AP.6	Refine a solution that meets users' needs by incorporating feedback from team members and users.
8.1.8.AP.8	Systematically test and refine programs using a range of test cases and users.
8.1.8.AP.9	Document programs in order to make them easier to follow, test, and debug.
8.2.8.ITH.1	Explain how the development and use of technology influences economic, political, social, and cultural issues.
8.2.8.ITH.2	Compare how technologies have influenced society over time.
8.2.8.ITH.3	Evaluate the impact of sustainability on the development of a designed product or system.

8.2.8.ITH.4	Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.

Materials

- Chromebook
- Brainpop
- Scratch
- CS First-Game Design Module

Assessment

Formative Assessment

- Teacher Observation
- Checks for Understanding
- Exit Tickets

Summative Assessment

- Performance Tasks & Projects

Accommodations & Modifications

Special Education

- Follow IEP Plan which may contain some of the following examples…
- In class/pull out support with special ed teacher or assistant
- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

504

- In class/pull out support with special ed teacher or assistant
- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

ELL

- Translation device/dictionary

- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

At-risk of Failure

- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

Gifted & Talented

- Independent projects
- Online games
- Extension activities

Interdisciplinary Connections

21st Century Life Literacies & Key Skills

9.4.8.GCA.1	Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.