

Grade 4 Technology Unit 2: Video Game Creation

Content Area: **Technology**
Course(s): **Technology Grade 4**
Time Period: **MP2**
Length: **7 days**
Status: **Published**

NJSLS - Computer Science and Design Thinking

CS.3-5.8.1.5.CS.1	Model how computing devices connect to other components to form a system.
CS.3-5.8.1.5.CS.2	Model how computer software and hardware work together as a system to accomplish tasks.
CS.3-5.8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
CS.3-5.8.1.5.IC.1	Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.
CS.3-5.8.1.5.IC.2	Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.

Rationale and Transfer Goals

During this unit, students will be creating educational video games using a game creation site. Students will understand how video game creating has changed over time using new technology and programs. They will be using their game creation software to create simple yet playable games that they will design, create and modify to ensure quality playability. As students are regularly exposed to all types of video games, including those of the educational variety, this unit will be useful by giving students the opportunity to create a game that will be meaningful to them as well as their classmates, as they can use information they have learned in other subject areas as content for their games. Students will research and discuss how video games have evolved over time with new technologies.

Enduring Understandings

Game creation can be another way for students to show what they have learned about a subject.

Changes to technology have allowed video games to increase in quality over time.

Essential Questions

How can I create a game that is both educational and fun to play?

Content - What will students know?

- Past practice of creating a video game.
- Basics of game creation software.
- Video Game Asset Creation.
- Video game design and creation
- A brief history of video games and video game systems.

Skills - What will students be able to do?

- Understand the process and steps taken in the past to create a video game.
- Students will be able to create a basic video game using assets already collected by the teacher.
- Students will be able to design their own characters and other visual assets that will be used for their game.
- Students will be able to design a videogame that corresponds to a topic they learned about in school of their choosing.
- Students will be able to research the evolution of video games and video game systems.

Activities - How will we teach the content and skills?

- Show video and presentations on how video games were created in the past and how technology has changed over the years in producing video games.
- Whole class demonstration of bloxels.com video game production software, followed by students receiving login information for their accounts and creating a practice game on the bloxels.com grid using provided assets.
- Whole class instruction on designing and animating characters.
- Whole class discussion of creating a story for their video game. Students will develop their game like a story, including characters, setting, problem and solution. They will then design and decorate their game world.

- Whole class discussion of the evolution of video games and video game consoles.

Evidence/Assessments - How will we know what students have learned?

- Class discussion on how video game creating has changed.
- Evaluation of practice games.
- Evaluation of students' characters and animation.
- Evaluation of student projects.

Spiraling for Mastery

Content or Skill for this Unit	Spiral Focus from Previous Unit	Instructional Activity
Video Game asset creation	Internet image search	Whole class review of finding pictures on the internet through an image search, followed by students searching for pictures to fill categories to create one of several themes for games (eg. multiplication, animal habitats) and finally creating their own game.

Key Resources

youtube.com

bloxels.com

21st Century Life and Careers

likes.

WRK.9.2.5.CAP.4

Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Career Readiness, Life Literacies, & Key Skills

TECH.9.4.5.DC.6

Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1).

TECH.9.4.5.TL.1

Compare the common uses of at least two different digital tools and identify the advantages and disadvantages of using each.

TECH.9.4.5.TL.4

Compare and contrast artifacts produced individually to those developed collaboratively (e.g., 1.5.5.CR3a).

TECH.9.4.5.TL.5

Collaborate digitally to produce an artifact (e.g., 1.2.5CR1d).

Interdisciplinary Connections/Companion Standards

Literacy and language arts in the technology context: writing, programming, word processing, and creativity with language

Science: understanding of computer components, operations of touchscreens and other user devices

Social Studies: Computers in the context of society; our relationships to computers as a tool

Health: Limits to screen time and healthy relationships with technology, online technologies

Art: Design and visual aesthetics in video game creation

SCI.3-5-ETS1-1

Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.