

## Project Title: Creative Coding Showcase

**This project was created to celebrate May 30<sup>th</sup>, National Day of Creativity utilizing A Chat GPT large language model to assist in designing the lesson.**

**The following is the prompt used in the creation of this project:**

*Tomorrow is national Creativity Day and can be observed by embracing your own creativity and support the creative people in your life. Set aside the day as an opportunity to refocus your energy on your craft. Recommit to your talent and goals. This day is all about your creative energies and where they will take you. What inspires you, motivates you? Support others who are excited about creating and bask in their passion.<sup>1</sup>*

*Can you design a 3-day<sup>2</sup> Creativity Day project for high school students creatively demonstrate their understanding of the Intro to programming course, using code.org's Game lab, that incorporates multiple sprites, background, text, Sprite Properties (velocity, scale, x, y, rotation), mouse movement, and keyboard controls.*

*Please include language objectives, reading objectives, writing objectives, and rubric for grading, as well as pacing guide*

---

<sup>1</sup> Description from <https://www.nationaldaycalendar.com/national-day/national-creativity-day-may-30>

<sup>2</sup> After reviewing the initial lesson created, it was identified to expand the project to 6 days instead of 3 taking into account the amount of time and the structure of our periods.

# Project Title: Creative Coding Showcase

## Project Overview

Students will use their creativity design, develop, and present a unique interactive app using [www.Code.org](http://www.Code.org)'s Game Lab to demonstrate their understanding of concepts learned throughout the course including multiple sprites, background, text, sprite properties (velocity, scale, x, y, rotation), mouse movement, and keyboard controls.

### Language Objectives:

1. Students will be able to articulate their app design process using appropriate programming terminology.
2. Students will present their final project, explaining the code and the functionalities implemented.

### Reading Objectives:

1. Students will read and comprehend instructions and tutorials on Code.org.
2. Students will research and reference examples of apps to inform their design process.

### Writing Objectives:

1. Students will document their app design process, including the planning phase, coding phase, and debugging phase.
  2. Students will write a reflection on what they learned and how they applied their creativity to programming.
- 

## Pacing Guide

### Day 1 & 2: Planning and Initial Coding

#### Introduction (30 minutes):

- Introduce the project and objectives.
- Review key concepts: sprites, backgrounds, text, sprite properties, mouse movement, and keyboard controls.
- Show examples of simple apps created in Game Lab.

#### Planning Phase (60 minutes):

- Students brainstorm ideas for their app.
- Create a storyboard outlining the app's purpose, main characters (sprites), background, and interactions.
- Write pseudocode for major app functions.

## Project Title: Creative Coding Showcase

### Initial Coding (30 minutes):

- Start coding the app setup: create sprites and background.
- Implement basic sprite properties and initial movements.

### Day 3 & 4: Coding and Debugging

### Continued Coding (90 minutes):

- Work on more advanced interactions:
- Implement sprite movements using mouse and keyboard controls.
- Add velocity and rotation to sprites where necessary.
- Use conditional statements for sprite interactions and app rules.

### Debugging and Peer Review (30 minutes):

- Test the app and debug any issues.
- Pair with a classmate to review each other's code and provide feedback.

### Day 5 & 6: Finalizing and Presentations

### Final Adjustments (60 minutes):

- Complete any remaining code.
- Add finishing touches like text elements for instructions or scores.
- Ensure all app elements (sprites, background, interactions) work as intended.

### Presentations (60 minutes):

- Each student presents their app to the class.
- Explain the app design, code functionality, and creative choices.
- Classmates can ask questions and give positive feedback.

### Post Project Reflection/Writing (30 minutes):

- Students write a brief reflection on what they learned from the project and how they applied their creativity.

**Summary:** This project allows students to showcase their creativity and understanding of programming concepts, providing a comprehensive and engaging way to wrap up the Intro to Programming course.

## Project Title: Creative Coding Showcase

### Rubric for Grading

Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
<b>Creativity</b>	Highly original and creative game design	Original game design with minor clichés	Somewhat original, uses many clichés	Unoriginal or copied design
<b>Functionality</b>	Game runs smoothly with no errors	Minor bugs but overall functional	Functional with several bugs	Non-functional or numerous bugs
<b>Code Complexity</b>	-	Uses intermediate coding concepts	Uses basic coding concepts	Lacks understanding of basic concepts
<b>Sprite Usage</b>	3 or more sprites with 3 or more properties and interactions	Exactly 3 sprites with some properties and interactions	Less than 3 sprits with basic use of properties	Minimal use of sprites or interactions
<b>User Interaction</b>	Use of both mouse and keyboard controls	Use of either mouse or keyboard controls	Basic use of either mouse or keyboard	No interactive controls implemented
<b>Documentation</b>	Thorough documentation of the design process	Good documentation with some gaps	Basic documentation	Little to no documentation
<b>Activity Guide</b> 2 x points	Completed fully. App follow the guide completely	Mostly completed or the app mostly follows the guide	Somewhat completed or app somewhat follows the activity guide	Minimal to no completion or app does not follow activity guide
<b>Reflection</b>	In-depth reflection on learning and creativity	Reflective with some insights	Basic reflection on learning	Little to no reflection
<b>Presentation</b>	Clear, detailed explanation of the game and code	Clear explanation with minor details missing	Basic explanation of the game	Incomplete or unclear explanation

## Project Title: Creative Coding Showcase

**Below is the original, raw copy & paste of the project as developed by Chat GPT Prior to making it my own:**

### 3-Day Creativity Day Project for High School Students: Intro to Programming with Code.org's Game Lab

**\*\*Project Title: Creative Coding Showcase\*\***

### #### Project Overview

Students will design and create an interactive game using Code.org's Game Lab to demonstrate their understanding of the "Intro to Programming" course. The game must incorporate multiple sprites, background, text, sprite properties (velocity, scale, x, y, rotation), mouse movement, and keyboard controls.

### #### Objectives

**\*\*Language Objectives:\*\***

1. Students will be able to articulate their game design process using appropriate programming terminology.
2. Students will present their final project, explaining the code and the functionalities implemented.

**\*\*Reading Objectives:\*\***

1. Students will read and comprehend instructions and tutorials on Code.org.
2. Students will research and reference examples of games to inform their design process.

**\*\*Writing Objectives:\*\***

1. Students will document their game design process, including the planning phase, coding phase, and debugging phase.
2. Students will write a reflection on what they learned and how they applied their creativity to programming.

### #### Pacing Guide

**\*\*Day 1: Planning and Initial Coding\*\***

- **\*\*Introduction (30 minutes):\*\***

- Introduce the project and objectives.
- Review key concepts: sprites, backgrounds, text, sprite properties, mouse movement, and keyboard controls.
- Show examples of simple games created in Game Lab.

## Project Title: Creative Coding Showcase

- **Planning Phase (60 minutes):**
  - Students brainstorm ideas for their game.
  - Create a game storyboard outlining the game's purpose, main characters (sprites), background, and interactions.
  - Write pseudocode for major game functions.
  
- **Initial Coding (30 minutes):**
  - Start coding the game setup: create sprites and background.
  - Implement basic sprite properties and initial movements.
  
- Day 2: Coding and Debugging**
- **Continued Coding (90 minutes):**
  - Work on more advanced interactions:
    - Implement sprite movements using mouse and keyboard controls.
    - Add velocity and rotation to sprites where necessary.
    - Use conditional statements for sprite interactions and game rules.
  
- **Debugging and Peer Review (30 minutes):**
  - Test the game and debug any issues.
  - Pair with a classmate to review each other's code and provide feedback.
  
- Day 3: Finalizing and Presentations**
- **Final Adjustments (60 minutes):**
  - Complete any remaining code.
  - Add finishing touches like text elements for instructions or scores.
  - Ensure all game elements (sprites, background, interactions) work as intended.
  
- **Presentations (60 minutes):**
  - Each student presents their game to the class.
  - Explain the game design, code functionality, and creative choices.
  - Classmates can ask questions and give positive feedback.
  
- **Reflection Writing (30 minutes):**
  - Students write a brief reflection on what they learned from the project and how they applied their creativity.

## Project Title: Creative Coding Showcase

### #### Rubric for Grading

Criteria	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)
<b>**Creativity**</b>	Highly original and creative game design	Original game design with minor clichés	Somewhat original, uses many clichés	Unoriginal or copied design
<b>**Functionality**</b>	Game runs smoothly with no errors	Minor bugs but overall functional	Functional with several bugs	Non-functional or numerous bugs
<b>**Code Complexity**</b>	Uses advanced coding concepts effectively	Uses intermediate coding concepts	Uses basic coding concepts	Lacks understanding of basic concepts
<b>**Sprite Usage**</b>	Multiple sprites with varied properties and interactions	Multiple sprites with some interactions	Basic use of multiple sprites	Minimal use of sprites or interactions
<b>**User Interaction**</b>	Comprehensive use of mouse and keyboard controls	Good use of either mouse or keyboard controls	Basic use of either mouse or keyboard	No interactive controls implemented
<b>**Presentation**</b>	Clear, detailed explanation of the game and code	Clear explanation with minor details missing	Basic explanation of the game	Incomplete or unclear explanation
<b>**Documentation**</b>	Thorough documentation of the design process	Good documentation with some gaps	Basic documentation	Little to no documentation
<b>**Reflection**</b>	In-depth reflection on learning and creativity	Reflective with some insights	Basic reflection on learning	Little to no reflection

This project allows students to showcase their creativity and understanding of programming concepts, providing a comprehensive and engaging way to wrap up the Intro to Programming course.