

Lesson 13: Mini-Project - Animation

Overview

Question of the Day: How can we combine different programming patterns to make a complete animation?

In this lesson, students are asked to combine different methods that they have learned to create an animated scene. Students first review the types of movement and animation that they have learned, and brainstorm what types of scenes might need that movement. They then begin to plan out their own animated scenes, which they create in Game Lab.

Purpose

This is a chance for students to get more creative with what they have learned. Some students may spend more time in the animation tab drawing than programming. Encourage students to spend time on parts of the activity that interest them, as long as they meet the requirements of the assignment.

Assessment Opportunities

Use the project rubric attached to this lesson to assess student mastery of learning goals.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- **AP** - Algorithms & Programming

Agenda

Lesson Modifications

Warm Up (5 minutes)

Review

Activity (35 minutes)

Gallery Walk

Wrap up (5 minutes)

Journal

Teaching Guide

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the teachers

- **CSD Unit 3 - Interactive Animations and Games** - Slides

For the students

- **Animated Scene** - Rubric
- **Animated Scene** - Activity Guide

Lesson Modifications



Attention, teachers! If you are teaching virtually or in a socially-distanced classroom, please **click here** to access modifications that can be used during this lesson.

Warm Up (5 minutes)

Review

Prompt: Write down as many types of movement and animations as you can remember from the previous lesson. Make sure you know what blocks and patterns you need to make those movements, and when those movements would be useful.

Share: Allow students to share out what they remember as a group review.

Discussion Goal

The goal of this discussion is to review the different types of movement and animations that students have learned. As students talk about the different methods, make sure that they are mentioning why that type of movement would be useful. Press them to be specific about what they might animate using the various methods.

Remarks

Now that we can control the way that our sprites move a little better, we're going to have a chance to put everything together to make an animation from scratch.

Question of the Day: How can we combine different programming patterns to make a complete animation?

Activity (35 minutes)

Distribute: (Optional) pass out copies of the activity guide. Students can use this sheet to plan out the animation they create at the end of this lesson, but the planning can also be completed on scratch paper.

Transition Send students to Code Studio.

 1

Example Animated Scene

 2

Plan Your Scene

 3

Draw a Background



Add Sprites



Add Text



Add Movement



Review Your Animated Scene

Gallery Walk

Allow students to walk around the room and see the pictures that each of their classmates has coded. Celebrate all of the different ideas that students were able to implement with the same basic code.

💡 Teaching Tip

You may choose to formalize this process by having each student write down one positive quality of each project, or having students "draw names" to comment on one particular classmate's work.

Wrap up (5 minutes)

Journal

Question of the Day: How can we combine different programming patterns to make a complete animation?

Prompt: What was one interesting way that you saw sprite movement used today?

Share: Have students share out what they appreciated about their classmates' projects. You may want to do this "popcorn" style, with each student who responds choosing the next person to share.

💬 Discussion Goal

This discussion should serve as a celebration of what the students have accomplished. As students share out what they have seen, encourage them to learn from each other and ask questions if they were not sure how to do something. Highlight how students were able to do very different things with the same tool.