COMPUTER SCIENCE

CS.2 CREATING A GAME

LESSON PLANS

GameSalad®
for Education

TABLE OF CONTENTS

ABOUT THIS UNIT

Monster Maze covers the basics of how to manage the GameSalad user interface and the basic foundations of game design. Students create their own game that includes user input to control the movement of an actor, collision detection, object collision, and victory / failure conditions. This open-ended project gives students the opportunity to design their own mazes, add assets such as graphics and sounds, and includes challenges such as expanding the game to include multiple levels.

DRIVING QUESTION

How can I create my own video game?

MAIN GOAL

Students will develop a complete video game.

MAIN OBJECTIVES

- Plan and develop video game
- Troubleshoot errors to support game development through individual research and collaboration

GRADE LEVEL AND STANDARDS

SUGGESTED GRADE LEVEL

3rd-12th grade

TEXAS-TEKS

Technology Applications (Grade 3-5): 1.A, 2.B, 2.F, 5.A, 5.B, 5.C, 5.D, 5.E, 5.F, 5.G, 6.A, 6.C
Technology Applications (Grade 6-8): 1.A, 4.B, 4.E, 5.A, 5.B, 5.C, 6.A, 6.C, 6.D, 6.E, 6.J

CSTA

1B-AP-15, 2-AP-17

PREREQUISITES

CS.A or CS.B Digital Citizenship

1: GAME DESIGN BACKGROUND AND GAMESALAD EXPLORATION

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Explore games published in the GameSalad arcade
- Become familiar with GameSalad Creator and assets

INSTRUCTIONAL APPROACHES

- Reading, individual or pairs
- Discussion, small groups and/or whole class
- Brainstorming

MATERIALS

- Computers with working internet access
- Monster Maze tutorial
- KWL Chart (physical or digital)

VOCABULARY

Scene, Actors, Table, Project Info, Portrait, Landscape, Library, Behaviors, Images, Sounds, Inspector, Game Attribute, Scene Attribute, Scene Editor

SUGGESTED PREPARATION

- Verify GameSalad Arcade (http://arcade.gamesalad.com/) is not blocked by the internet filter on your campus. If so, request to have it whitelisted by your IT staff.
- Review http://edu.gamesalad.com/glossary for definitions of GameSalad.
- Set up a shared space (e.g., Google Docs, discussion board) for students to post links to projects that they like from the GameSalad Arcade. This will serve as a quick access link to get inspiration when they are designing their own games.
- Assign project pairs, if desired.
- Review project rubric, and determine your expectations for each level of mastery, how you will assign grades to individuals, working in pairs, etc.
- Review Tutorial Game Checklist and Student Game Rubric.

ACTIVITY A: GAME DESIGN BACKGROUND (15 MINUTES)

In small groups, have students discuss one of their favorite video games. During their discussion, they should write down one thing that they "**K**now" about game design and at least one thing that they "**W**ant to Know" about game design.
Using either a shared online document or a poster paper, have students contribute to the class KWL Chart. This is a chart that will be added to throughout the unit.
Example KWL Chart
Topic: Game Design

Know	**W**ant to Know	**L**earned

Note: A blank KWL Chart is available in the teacher resources.

ACTIVITY B: EXPLORE GS ARCADE (20 MINUTES)

1. Either individually, or with a partner, have students go to http://arcade.gamesalad.com/
2. As students explore different games have them make notes such as, what is the genre of the game? What makes the game fun?
3. (Optional) Have an online document (e.g., Google Doc) where students can paste a link to their favorite game and write a brief explanation about the genre and what they like about the game.

ACTIVITY C: EXPLORE GS CREATOR & TEMPLATES (15 MINUTES)

1. Introduce students to GameSalad Creator.
2. Show students how to access tutorials and assets.

ASSESSMENT

WRITING PROMPTS

As a formative assessment at the end of the lesson, have students respond to one of these questions on an index card, scrap piece of paper, online form, or blog:

- *Writing Prompt (Grades 3-6)* - Based on one of the games you played in the GameSalad Arcade, write down the sequence of events for winning a level in that game.
- *Writing Prompt (Grades 7-12)* - Based on one of the games you played in the GameSalad Arcade, write down the sequence of events for winning a level in that game. In a separate paragraph, write suggestions about how you would enhance/change/improve the game.

CHALLENGE ACTIVITY

- In small groups (2-4 students) have them discuss the similarities and differences between two games on the GameSalad Arcade. What makes these games different? What are the elements of a good game?
- Have students explain how they would redesign a game on the GameSalad Arcade to improve it. What would they modify or enhance? Think about graphics, elements of gameplay, and mechanics of character control.

2: BEGIN GAME DEVELOPMENT

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Play complete Monster Maze game
- Complete part 1 of Monster Maze tutorial

INSTRUCTIONAL APPROACHES

- Reading, individual or pairs
- Discussion, small groups and/or whole class
- Brainstorming
- PBL

MATERIALS

- GameSalad Creator
- Monster Maze Assets and Tutorial - Part 1
- Monster Maze Tutorial Game Checklist

VOCABULARY

Prototype Actors, Instance Actors, Actor Editor, Default Actor Attributes, Rules, Behaviors, Action Behaviors, Persistent Behaviors, Container Behaviors, Direction (0-360 degrees), Group

SUGGESTED PREPARATION

- Test Monster Maze to ensure students have access to the completed game at http://arcade.gamesalad.com/games/143923
- Provide access to either digital or physical copy of Part 1 of the Monster Maze tutorial.

ACTIVITY A: INTRODUCTION TO MONSTER MAZE (20 MINUTES)

1. Show students how to access the completed version of Monster Maze on their computers.
2. After about 5 minutes of play, ask students to write down a few things that they notice about the game, such as character movement, wall collisions, items, and scenes.
3. In small groups (2-4 students), have students discuss what they noticed about the game. Ask each group to generate one question or idea that they would like to add to the KWL chart from Day 1.

ACTIVITY B: MONSTER MAZE TUTORIAL PART 1 (30 MINUTES)

1. Show students how to access and open the Monster Maze tutorial.
2. Students work independently or in pairs to follow the Monster Maze tutorial.
3. Encourage students to personalize their game as they see fit (e.g., student should have voice-and-choice in choosing their colors and designing their map).
4. Monitor students as they work while asking them inquiry-based questions such as:
    a) Explain to me how the interface works?
    b) What is a scene? And, why do we need scenes?
    c) What is the inspector? And, where can I find the inspector?

d) What is the library? And, what type of files can you put in the library?

ASSESSMENT

CHECKPOINT

- Create and rename 3 scenes
- Import images
- Import sounds
- Change background color

CHALLENGE ACTIVITY

Have student complete additional scenes.

3: MOVEMENT

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Complete part 2 of Monster Maze tutorial

INSTRUCTIONAL APPROACHES

- Direct teach
- Modeling
- Reading
- Discussion
- PBL

MATERIALS

- Monster Maze Assets and Tutorial - Part 2

VOCABULARY

Actor of Type, Actor of Tag, Physics Attribute, Collision, Density, Friction, Fixed Rotation, Iterative Process

SUGGESTED PREPARATION

- Provide access to either digital or physical copy of Part 2 of the Monster Maze tutorial.

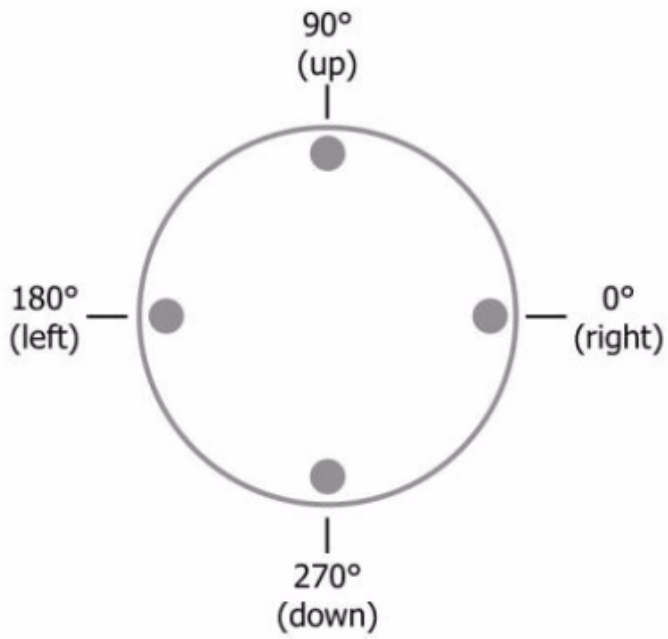
ACTIVITY A: MONSTER MAZE TUTORIAL PART 2 (30-40 MINUTES)

Before students begin Part 2, take a moment to demonstrate the difference between a Prototype and an Instance (see Monster Maze Tutorial - Part 2 - Prototype vs Instance).

Instructor Note

Unlocked instance actors are the single most common problem with beginners' GameSalad projects. Make sure you tell students to never unlock the lock.

You may want to take the opportunity for students to explore how movement works in GameSalad (great opportunity for cross-curriculum connection math discussion).



- Monitor students as they work while asking them inquiry-based questions such as:
  - What are the rules for movement and how does it work?
  - Can you explain to me your movement using if / then / else?
  - How do the degrees of a circle work in GameSalad?
  - If I wanted a character to move up and to the left, what degrees would I choose?
  - How would a character move at a speed of 50 instead of a speed of 200?

ASSESSMENT

CHECKPOINT

- Monster is added
- Monster is sized appropriately
- Monster actor correctly moves with arrow key input

WRITING PROMPT

As a formative assessment at the end of the lesson, have students respond to one of these questions on an index card, scrap piece of paper, online form, or blog:

- *Writing Prompt (Grades 3-6)* - Based on a number circle, explain what you would expect your character to do if you assigned its movement to 90 degrees. How would this differ is you assigned 180 degrees?
- *Writing Prompt (Grades 7-12)* - Based on a number circle, explain what direction you would expect the character to move with 0, 90, 180, and 270 degrees. What would happen if the character was set to move at 45 degrees?

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.

- Experiment with the speed of your monster. Can you make to go faster? Slower?

- Using the number pad (or other keys) can you make your monster move diagonally?

4: CREATING WALLS & MAZE

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Complete part 3 of Monster Maze tutorial

INSTRUCTIONAL APPROACHES

- Reading
- Discussion
- PBL

MATERIALS

- Monster Maze Assets and Tutorial - Part 3
- At least two types of balls (such as a tennis ball and baseball)

VOCABULARY

Actor of Type, Actor of Tag, Physics Attribute, Collision, Density, Friction, Fixed Rotation, Iterative Process

SUGGESTED PREPARATION

- Provide access to either digital or physical copy of Part 3 of the Monster Maze tutorial.
- Have access to items that have different levels of bounciness (such as a tennis ball, basketball, baseball, rubber ball) for the teacher to demonstrate and for student experimentation.

ACTIVITY A: INTRODUCTION TO GAME PHYSICS AND TUTORIAL PART 3 (20 MINUTES)

1. As a class, have students load progress that they saved from the previous class (should be done up to the end of Part 2).
2. Have students follow the tutorial from the beginning of Part 3 until the end of "Adding Collision for the Walls."
3. Once students have added their walls, take the opportunity to have the class engage in a small group discussion with the following prompts:
    a) What do you think will happen to a tennis ball if I throw it at the wall?
    b) What happens to the wall when it is hit by the tennis ball?
    c) In your game, what do you think will happen when your character hits a wall?
4. Throughout the class discussion, work to emphasize the concepts of Collision, Bounciness, and Rotation.
5. Have students resume the tutorial and add collisions to the actor and the walls.
6. Ask students:
    a) What happens when your actor hits the wall?
    b) What is supposed to happen when you actor hits the wall?
    c) How can we fix the rotation of the walls?

ACTIVITY B: MONSTER MAZE TUTORIAL PART 3 CONTINUED (30 MINUTES)

1. As individuals, or in pairs, have students complete the rest of Part 3 tutorial.

2. Possible inquiry-based questions you may want to ask students while they are working include:
    a) Can you explain why we had to modify the value for the bounciness of both the actor and the wall?
    b) Why do we need walls outside of the visible scene?
    c) What are you taking into consideration in designing your maze?

ASSESSMENT

CHECKPOINT

- Walls do not move or rotate
- Monster does not move outside the wall boundaries
- Maze actors do not move or rotate when the monster collides with them
- Maze obstacles are arranged so that the monster actor can easily move through the maze

WRITING PROMPT

As a formative assessment at the end of the lesson, have students respond to one of these questions on an index card, scrap piece of paper, online form, or blog:

- *Writing Prompt (Grades 3-6)* - Using your game as a reference, write down the sequence of steps you need to follow to prevent your actor from bouncing or rotating when it hits a wall.
- *Writing Prompt (Grades 7-12)* - Your friend shows you a game that they created and their actor can walk off the edge of the screen. Also, when the actor walks into a wall, they begin to rotate. What suggestions would you make to help them fix their game?

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.

- Using the physics tools, can you design a maze where the actor uses different speeds and bounciness?
- Using the color selecting attribute, can you customize the colors of your maze, background, and monster?

5: SOUND FORMATS

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Identify sound formats and uses
- Complete part 4 of Monster Maze tutorial

INSTRUCTIONAL APPROACHES

- Reading
- Discussion
- PBL

MATERIALS

- Monster Maze Assets and Tutorial - Part 4

VOCABULARY

Sound Extensions (OGG, MP3, WAV), Align, Wrap Inside Actor, Position, Direction, Relative to Scene, Relative to Actor, Transparent, Opacity, Alpha

SUGGESTED PREPARATION

- Provide access to either digital or physical copy of Part 4 of the Monster Maze tutorial.
- Test whether sound is working on student computers, and/or whether there is access to headphones if desired.
- Identify websites where students can explore sound/music files which they can include in projects (such as https://freesound.org/).

ACTIVITY A: SOUND FORMATS (20 MINUTES)

1. As individuals, or as small groups (2-4 students), have students research three different sound formats online: WAV, OGG, and MP3.
2. As students research, have them generate a list of Advantages and Disadvantages for each file type.
3. Once students have generated their list, have them share with the class. The instructor should complete a table (as shown below) to record student responses. Students should add anything that was missing in their personal chart.

	WAV	OGG	MP3
Advantages			
Disadvantages			

Some example answers may include:

	WAV	OGG	MP3
Advantages	Highest sound quality Raw, uncompressed sound	Open-source lossy compression Small file size	Lossy Compression Small file size
Disadvantages	Large file size	Compressed audio may only sound "good enough"	Not open-source Compressed audio may only sound "good enough"

ACTIVITY B: WHAT'S IN A SCENE? (10 MINUTES)

1. Introduce students to the concept of using Scenes in GameSalad by discussing the concept that games have different levels, as well as menus.
2. Have students watch introductory video on scenes in the GameSalad Knowledgebase. Link: http://help.gamesalad.com/gamesalad-cookbook/1-getting-started/1-04-using-scenes-in-gamesalad/

Instructor Note

Scenes are the building blocks of your game. They contain the objects of your game and provide an essential way to organize different sections of your game. For example, you may create a scene for the initial menu of the game, another for an individual game level, another to end the game, etc. You can use scenes to design and build your game in segments.

ACTIVITY C: MONSTER MAZE TUTORIAL PART 4 (25 MINUTES)

1. Students continue to part 4: Create Finish Line & Change Scenes.
2. Some inquiry-based questions you may ask students while they work include:
    - What are the rules for how your finish line works?
    - What does an Alpha level of 0 do to the background?
    - What are other types of scenes that you might want to add to your game?

ASSESSMENT

CHECKPOINT

- Finish Line added
- Chime sound plays when the monster touches Finish Line
- Scene changes to 'You Win!' when the monster touches Finish Line

WRITING PROMPT

As a formative assessment at the end of the lesson, have students respond to one of these questions on an index card, scrap piece of paper, online form, or blog:

- *Writing Prompt (Grades 3-6)* - How are scenes used in Monster Maze? How have you noticed scenes being used in other games that you have played?

- *Writing Prompt (Grades 7-12)* - Pick a game that you know really well. Describe how that game uses scenes and compare and contrast it to the scene you added to Monster Maze.

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.
Design your "You Win!" scene by adding additional graphics and experimenting with color and font choice to make it look more attractive.

6: ATTRIBUTES

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Identify different attributes in GameSalad
- Explore debugging techniques
- Complete part 5 of Monster Maze tutorial

INSTRUCTIONAL APPROACHES

- Reading
- Discussion
- Presentations
- PBL

MATERIALS

- Monster Maze Assets and Tutorial - Part 5
- Notebook paper, poster paper, or shared document to create a table

VOCABULARY

Logic, Integer Attribute, Boolean Attribute, Real Attribute, Text Attribute, Angle Attribute, Index Attribute, Attribute Browser, Expression Editor, Debugging Techniques

SUGGESTED PREPARATION

- Provide access to either digital or physical copy of Part 5 of the Monster Maze tutorial.
- Ensure that students have access to graphics and sound assets.
- If using poster paper, have markers and wall space to display student work.
- Verify there is access to the GameSalad Knowledgebase. http://help.gamesalad.com/knowledge-base/
- Familiarize yourself with GameSalad's six attribute types: Boolean, Integer, Real, Text, Angle, and Index.

ACTIVITY A: ATTRIBUTE TYPES (20 MINUTES)

1. There are several types of attributes used in the GameSalad platform. Attributes can be associated with different types of numbers or text and are also found in text-based programming languages. These include Boolean, Text (also known as Strings), Integers, Real, Angle, and Index. Although students will only be using integers in this lesson, this is a great opportunity to introduce them to the different attribute types.
2. Using either a sheet of notebook paper, poster paper, or a shared document, have students create a chart that includes Boolean, Text, Integers, Real, Angle, and Index.

Example of a blank chart:

Type	**Description**
Boolean	

Integer	
Real	
Text	
Angle	
Index	

3. Using the GameSalad Knowledgebase, have students research the different types of attributes, write definitions in their own words, and provide their own unique examples. http://help.gamesalad.com/knowledge-base/

Example of completed student work:

Type	**Description**
Boolean	A value that is either 'true' or 'false'.
Integer	A negative or positive whole number (-10, 0, 100).
Real	A number that has decimal places. In many languages, this is also called a "floating point" number (1.4, -3.14).
Text	A sequence of characters. Since you rarely deal with just a single alphabetical character in a game, GameSalad deals with Text. In many languages, this is known as a "String" ("Hello World").
Angle	A number between 0 and 359 (representing degrees in a circle).
Index	Starting with zero, an index can be zero or any positive integer. Used to ensure the value can be used as an index to an array. For example, in the array [red, green, blue, purple], the index of red is 0, green is 1, blue is 2, and purple is 3.

4. If possible, have students publicly display their charts and have each group explain one type of data to the class including an example.

ACTIVITY B: MONSTER MAZE TUTORIAL PART 5 (30 MINUTES)

1. As students are working on part 5 of the tutorial, they will be using the expression editor to add some mathematical logic behind keeping score in their game. Some suggested questions to ask include:
    a) How is the expression editor similar to what you do in math class?
    b) What is the attribute browser and how does it work?
    c) What would happen if you were to add a '-1' instead of a '+1' when the monster touches a candy?

ASSESSMENT

CHECKPOINT

- Chomp sound plays, when the monster touches Prize
- Chomp sound plays and candy image disappears when the monster touches Prize
- When the monster touches Prize, chomp sound plays, candy image disappears, and score (PrizeCount) changes correctly and is displayed in PrizeCount Text actor
- When the monster goes directly to Finish Line, scene does not change
- When the monster picks up all Prize actors then goes to Finish Line, scene changes to 'You Win!'

WRITING PROMPT

As a formative assessment at the end of the lesson, have students respond to one of these questions on an index card, scrap piece of paper, online form, or blog:

- *Writing Prompt (Grades 3-6)* - What is the difference between a real number and an integer? Give at least two examples of each type.
- *Writing Prompt (Grades 7-12)* - Given the variables of "3.12" "hello" and "1", explain which attribute type is appropriate for each variable. If possible, name multiple attribute types for each number/data type.

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.

- Add another color candy to your game. When the Monster gets the candy (prize) subtract two points from the PrizeCount.

7: QUIZ REVIEW

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Complete part 6 of Monster Maze tutorial
- Prepare for quiz

INSTRUCTIONAL APPROACHES

- Review
- Class discussion
- PBL

MATERIALS

- Monster Maze Assets and Tutorial - Part 6

VOCABULARY

None

SUGGESTED PREPARATION

- Provide access to either digital or physical copy of Part 6 of the Monster Maze tutorial.
- If using physical copies, have any quiz review material ready before the start of class.
- If students are sketching and designing their intro scenes, have paper and pencils available or select an online mockup application.

ACTIVITY A: INTRODUCTION SCENES (15 MINUTES)

1. In small groups, have the class discuss "Why do games have introduction scenes?"
2. Using some classic introduction examples, have students analyze the introduction screen for Super Mario Bros. (You can either find a video on YouTube or an online emulator.)
    a) What purpose does this introduction scene serve?
    b) What do we learn from the introduction?
    c) What could be valuable to have in our Monster Maze introduction scene?
3. Have the student look at intro scenes from other games. This may include games such as:
    a) Something they already have installed on their phones.
    b) Classic games such as Legend of Zelda or Super Mario Bros. 3.
    c) Interactive intro scenes, such as Super Mario 64.
    d) Games that are in the GameSalad Arcade.
4. Have students identify some common features of these intro scenes.

ACTIVITY B: QUIZ REVIEW (20 MINUTES)

1. Before reviewing for the quiz, revisit the KWL chart focusing on the "Learned" section.
2. In small groups, have students brainstorm about what they have learned while making Monster Maze, and what they would like to learn while making future games.
3. Review for the quiz. This can be instructor led or student led.

ACTIVITY C: MONSTER MAZE TUTORIAL PART 6 (20 MINUTES)

Have students complete part 6 of the Monster Maze tutorial.

ASSESSMENT

CHECKPOINT

- Monster Maze (title) text is centered in scene, easy to read, and appropriately sized
- When Play button is pressed, game changes scene to Maze Level 1
- Play button is easy to read, appropriately sized, and works correctly when pressed

GALLERY WALK

Each student is given several post-it notes. Students will load their intro scene and leave it on the screen. Using post-it notes, have students provide feedback to at least two peers introductions based on these three prompts:

1. What do you like about the intro scene?
2. What would you add to the intro scene?
3. What would you modify in the intro scene?

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.

- Add a sound to your Play button.

8: QUIZ

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Complete quiz
- Plan for custom game

INSTRUCTIONAL APPROACHES

- Assessment
- PBL

MATERIALS

- Student Game Design Rubric
- Unit Quiz
- Game Planning Document

VOCABULARY

None

SUGGESTED PREPARATION

- Assign the unit quiz through the teacher dashboard.
- Create copies of the student game planning document.

ACTIVITY A: QUIZ (20 MINUTES)

Have students complete the unit quiz individually.

ACTIVITY B: PUTTING IT TOGETHER (20 MINUTES)

1. Before passing out student planning documents, have students in small groups discuss the following questions:
    a) What type of game do you want to create?
    b) What is the genre of the game?
    c) What is the objective of the game?
2. Provide students with the Game Planning Document, depending on your school and resources, which can either be individually or in partners.
3. As students work on planning document, encourage them to share ideas with each other as a means of thinking of different ways to create their game.

Type	Description
Setting	Describe where the game takes place. Include what it looks like, as well as how it makes you feel.
Components	What are the different parts of the game? What does each do? Are there objects, like in Mario, that give your player special powers? Are there spikes that

	make the player start over?
Goal	Explain the objective of the game. What are you trying to achieve?
Conditions	How do you win the game? Are there multiple things you need to do to win? Explain how you lose the game, as well. What happens when you lose?
Mechanics	Explain how you play your game. For example, are they using keys or touch controls to move within the game?
Rules	What are the steps that the player must take? What can you do and what can you not do? For example, do you have to finish level 1 before starting level 2?

Instructor Note

Encourage students to use assets that are either included with Monster Maze, or previous games they have developed. Other assets can be found online, but the use of public domain or Creative Commons assets should be encouraged.

ACTIVITY C: DISCUSS GAME IDEAS (10 MINUTES)

1. In groups of two (or groups of four if working as partners), have students share their planning document for their game.
    a) Set a timer for 5 minutes for students to share their ideas and receive feedback from their partners.
    b) After 5 minutes reset the timer and have students switch roles.

ASSESSMENT

WRITING PROMPT

Based on your small group discussion, write a paragraph summary of the game you plan on creating.

CHALLENGE ACTIVITY

NOTE: Before attempting daily challenges, students should make a copy of their game to modify.

Throughout the game development process:

- Encourage students to add more personalization to their game.
- If a student game is too complex, challenge them to find ways to simplify the mechanics or conditions so it is more intuitive.
- Encourage students to create features they might be missing such as in-game instructions/tutorial.
- Challenge students to create scenes, such as their title scene, that are both functional and professional looking. (e.g., Does this game look professional enough that you would purchase it?)

9: WORK ON GAME

PREPARATION

Estimated lesson duration 2 hours

OBJECTIVES

- Create custom game
- Review and provide feedback for games developed by peers

INSTRUCTIONAL APPROACHES

- Peer Review
- PBL

MATERIALS

- Desktop/ laptop computer with internet access

VOCABULARY

None

SUGGESTED PREPARATION

- Make sure students are familiar with the rubric.
- Monitor student progress and focus on students who are falling behind.

ACTIVITY A: INDIVIDUAL WORK (120 MINUTES)

Students will spend this time working on their games. Encourage students to ask each other questions before they ask the instructor any questions. Adjust the time spent on this activity as needed.

ASSESSMENT

PEER REVIEW

Break students into pairs. Have them play each other's games and provide feedback based on the rubric that the games will be graded off of.

10: FINALIZE AND PRESENT GAME

PREPARATION

Estimated lesson duration 1 hour

OBJECTIVES

- Present game developed

INSTRUCTIONAL APPROACHES

- Presentations
- Questioning

MATERIALS

- Rubric
- Game Reflection Guiding Questions

VOCABULARY

None

SUGGESTED PREPARATION

Depending on your classroom, have a method ready for student presentations. This may include:

- Presenting at the front of the class projected on the main screen.
- "Science fair style," where half of the students are presenting while the other half wanders around the class viewing projects that interest them.
- A public presentation where other classes of students come into the class to play the "Arcade" your students have developed.

ACTIVITY A: PRESENTATIONS (30 MINUTES)

Option 1 - Individual Student Presentations

Note: While this is the traditional presentation style, you may consider the other approaches below for variety throughout the school year.

1. While projecting their game at the front of the room, have students present their development process and lessons learned while they designed their game.
2. Allow students to ask question at the end of the presentation.
3. Provide written feedback to each student on the Student Game Rubric.

Option 2 - Science Fair Style

1. Set a timer on the screen for 12 minutes.
2. Have half of the students set up their games as presenter, while the other half of the class freely wanders to play other peers games.
3. After 12 minutes, give the other half of the class 5 minutes to get their games ready to share.
4. Restart the timer and give the second group of students 12 minutes of presentation time.
5. Teacher takes some notes about each game, but outside of class time evaluates each based on the Student Game Rubric.

Option 3 - Class Arcade

1. Have all students prepare their games so anybody can walk-up and play.

2. Invite other classes into the "Class Arcade" to freely play your students' games.
3. Students stand by their game and explain the development process to people who have played their game or are observing other people playing the game.
4. Teacher takes some notes about each game, but outside of class time evaluates each based on the Student Game Rubric.

ASSESSMENT

GAME REFLECTION

1. After presentations, distribute the Game Reflection Guiding Questions form to the students.
2. Give students time to complete the form. You may choose to use this as a piece of summative assessment, or to include it in a portfolio to show their growth as a game designer throughout the year.

RUBRIC

Grade the student's final games against the provided Rubric.

CHALLENGE ACTIVITY

- Although the game has been presented, designing is an iterative process. Encourage students to continue refining their game.
- If students have created a high-quality game, encourage them to publish it to the GameSalad Arcade. This allows them to showcase their work and inspire other students to build similar games.

