

STARTER GAMES



SUGGESTED TIME
45–60 MINUTES

OBJECTIVES

By completing this activity, students will:

- + develop greater fluency with computational concepts (conditionals, operators, data) and practices (experimenting and iterating, testing and debugging, reusing and remixing, abstracting and modularizing) by working on a self-directed game project

ACTIVITY DESCRIPTION

- ☐ In this activity, students will create a starter game project that can be revisited and extended during the Score, Extensions, and Interactions activities. Optionally, show the Maze, Pong, and Scrolling example starter projects, and have the Maze, Pong, and Scrolling handouts available to guide students.
- ☐ Choose one game project to facilitate as a class or let students choose which game they want to create: maze, pong, or scrolling. Give students time to start building their games or let them remix one of the starter projects.
- ☐ Encourage students to get feedback on their games-in-progress. We suggest the feedback fair activity: half of the students stay in their seats with their projects open while the other half walks around exploring projects, asking questions, and giving feedback, then switch sides. Optionally, have students add their final game projects to the Games studio or a class studio.
- ☐ Ask students to respond to the reflection prompts in their design journals or in a group discussion.

RESOURCES

- ☐ Maze handout
- ☐ Maze example starter project
<http://scratch.mit.edu/projects/11414041>
- ☐ Pong handout
- ☐ Pong example starter project
<http://scratch.mit.edu/projects/10128515>
- ☐ Scrolling handout
- ☐ Scrolling example starter project
<http://scratch.mit.edu/projects/22162012>
- ☐ Games studio
<http://scratch.mit.edu/studios/487504>

REFLECTION PROMPTS

- + What was challenging about designing your game?
- + What are you proud of?

REVIEWING STUDENT WORK

- + Do games include conditionals, operators, and data?

NOTES

- + To celebrate and share final game creations, we recommend hosting an Arcade Day. Final game projects are placed in presentation mode; students walk around and play each other's games.
- + The Scrolling game option introduces cloning. Help students learn more about the cloning blocks with the Cloning handout from Unit 5 Advanced Features.

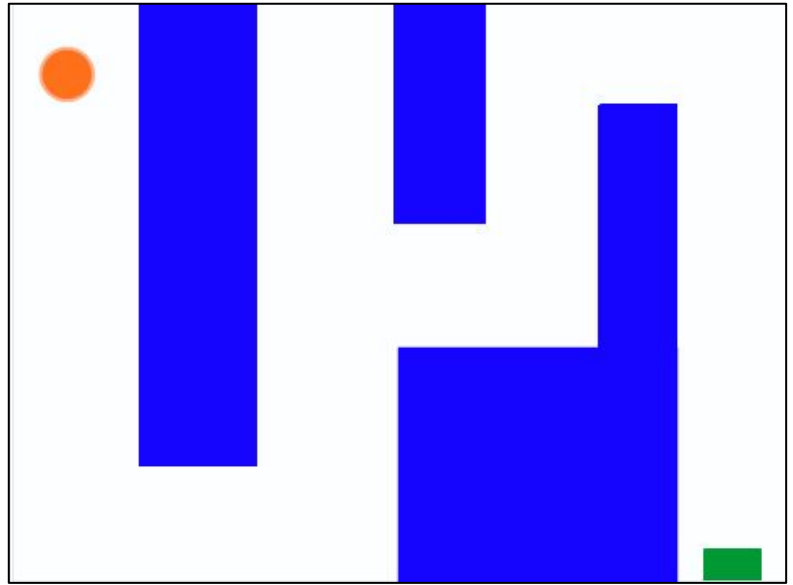
NOTES TO SELF

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

MAZE

HOW CAN YOU USE SCRATCH TO BUILD AN INTERACTIVE GAME?

In this project, you will create a game. This game includes interactions between sprites, score, and levels. You move a sprite from the start of a maze to the end without touching the walls.



START HERE

- ❑ Draw a maze-like background and use different colors for the walls and end-of-maze marker.
- ❑ Add a sprite.
- ❑ Make your game interactive!

THINGS TO TRY

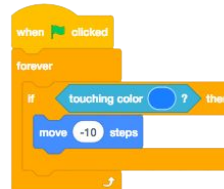
- ❑ Add multiple levels to your game! This can be done through the use of different backdrops and using broadcast blocks to trigger the next level.
- ❑ Use the make a variable block to keep score!
- ❑ Experiment with timer blocks to add new challenges to your maze!



These scripts give the player control over sprite movement in the maze.



This tells your sprite where to begin and marks the start of the maze.

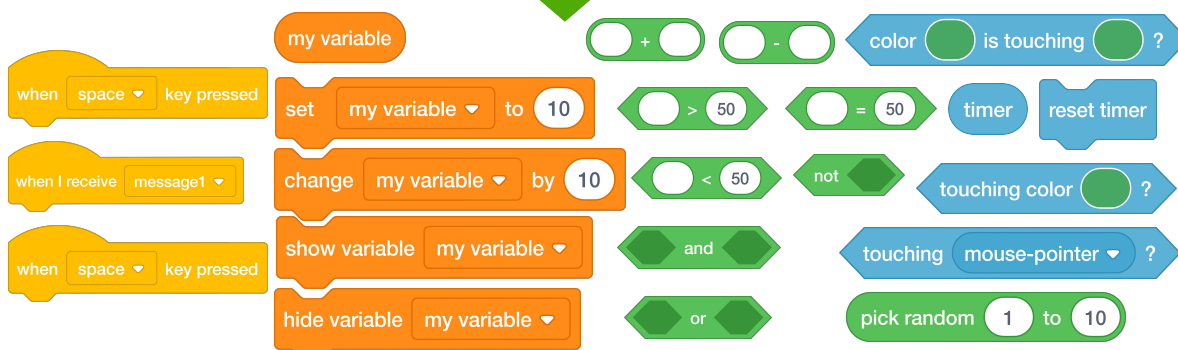


This will cause your sprite to bounce off the blue walls of the maze.



This tells the end-of-maze sprite that players win when the ball touches this sprite.

BLOCKS TO PLAY WITH



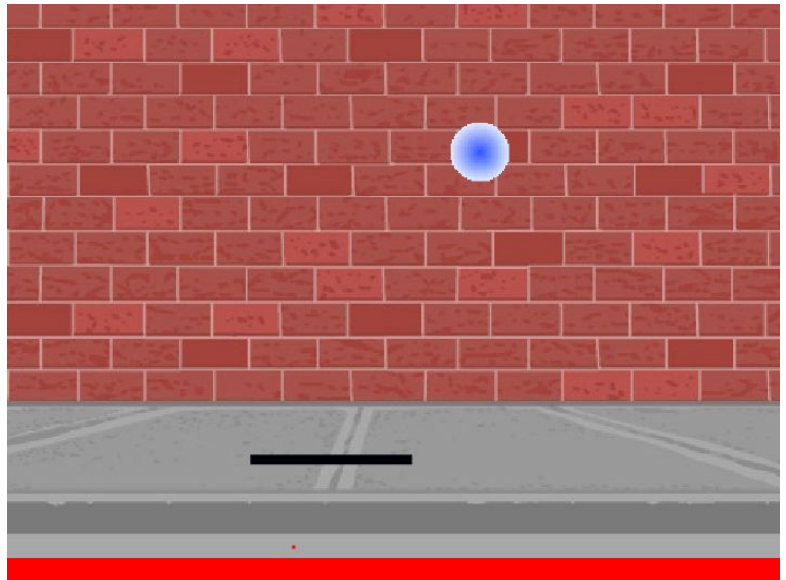
FINISHED?

- + Add your project to the Games Studio:
<http://scratch.mit.edu/studios/487504>
- + Swap games with a partner and walk each other through your creations.

PONG

HOW CAN YOU USE SCRATCH TO BUILD AN INTERACTIVE GAME?

In this project, you will create a game. This game includes interactions between sprites, score, and levels. The game is similar to the classic game of pong, where the goal is to keep the sprite from getting past you.

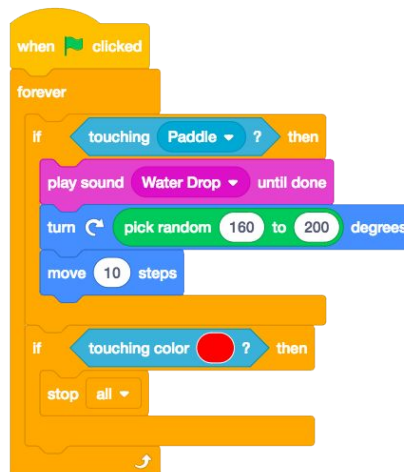
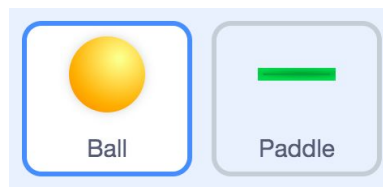


START HERE

- ❑ Create two sprites: a paddle for the user to control and a ball the user will be playing with.
- ❑ Make your paddle sprite interactive.
- ❑ Bring your game to life!

THINGS TO TRY

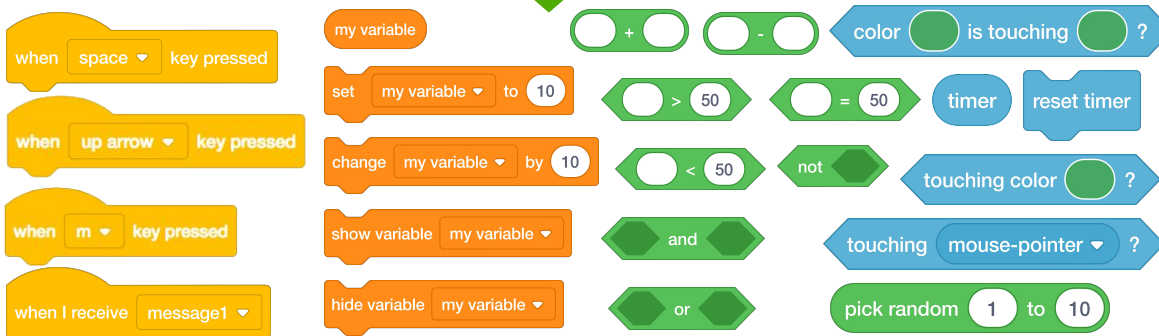
- ❑ How do you add difficulty to your game? Creating different levels, using a timer, or keeping score are a few examples of things you could do.
- ❑ Experiment with changing the look of your game by editing the backdrops!
- ❑ Explore using different key presses to control your sprites!



Interacts with the walls
Interacts with the paddle

These control the ball - if touching the paddle or a wall, it continues moving. If touching red (meaning the ball moved past the paddle) the game ends.

BLOCKS TO PLAY WITH



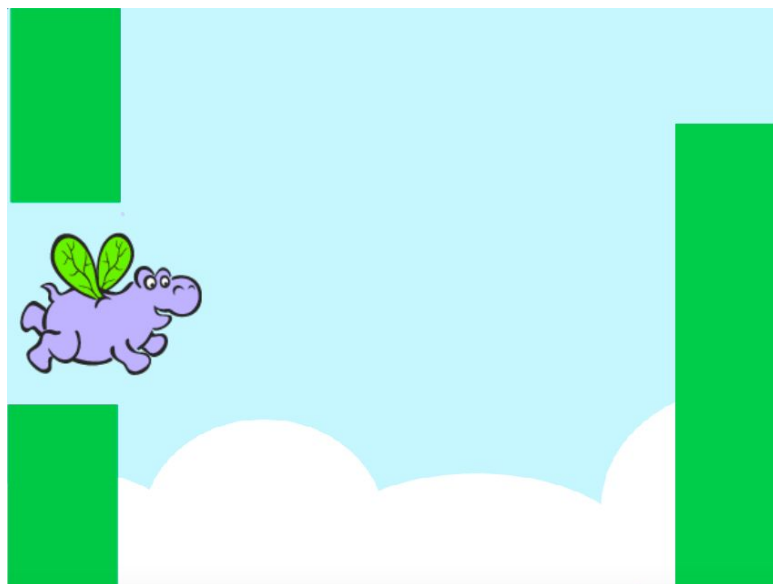
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SCROLLING

HOW CAN YOU USE SCRATCH TO BUILD AN INTERACTIVE GAME?

In this project, you will create a game. This game includes interactions between sprites, score, and levels. The game is similar to Flappy Bird, where the goal is to keep an object from falling to the ground or touching certain objects.

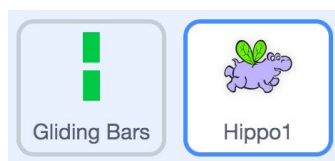


START HERE

- ❑ Create two sprites: one for the player to control (helicopter) and one to avoid (gliding bars).
- ❑ Make the helicopter interactive.
- ❑ Bring your game to life by adding scripts to make the gliding bars scroll across the stage!

THINGS TO TRY

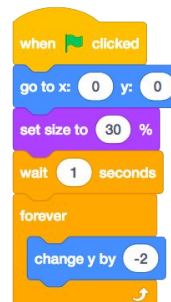
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- ❑ Explore using different key presses to control your sprites!



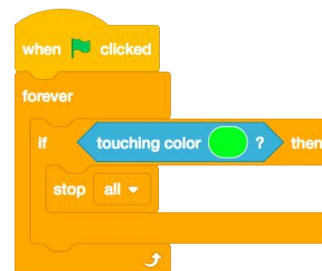
This creates clones, which are used in the script below to make the bars scroll across the screen:



Controls sprite movement

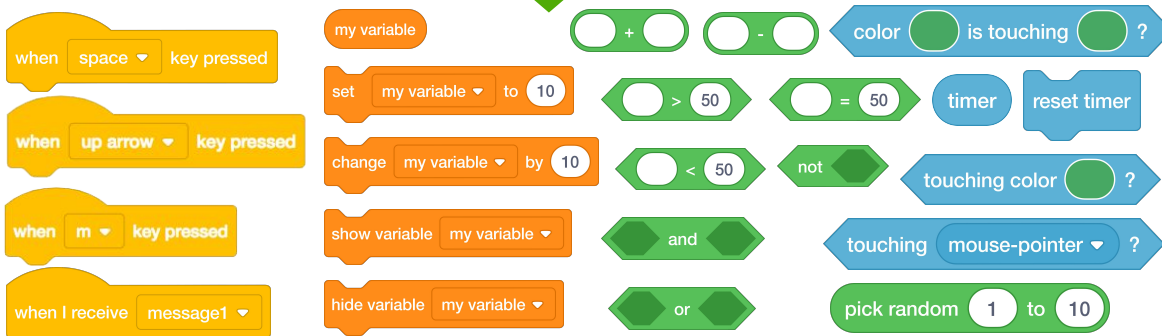


Causes sprite to constantly fall downward



Specifies when the game ends

BLOCKS TO PLAY WITH



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STARTER GAMES REFLECTIONS

NAME: _____

RESPOND TO THE FOLLOWING REFLECTION PROMPTS
USING THE SPACE PROVIDED BELOW OR IN YOUR
DESIGN JOURNAL.

+ What was challenging about designing your game?

+ What are you proud of?