

EXTENSIONS



SUGGESTED TIME
30–45 MINUTES

OBJECTIVES

By completing this activity, students will:

- + become more familiar with the concepts of conditionals, operators, and data by exploring programs that illustrate common game mechanics

ACTIVITY DESCRIPTION

- ☐ Optionally, show example projects from the Extensions studio and have the Extensions handout available to guide students.
- ☐ Give students time to explore the code of programs in the Extensions studio to investigate different ways games can be increased in difficulty or extended. Ask students to select one or more extensions to add to their previously started maze, pong, or scrolling game projects. Give students time to experiment and incorporate the extension(s) into their games.
- ☐ Allow students to share their extended game projects with one another. We suggest facilitating the pair-share or design demo activity to let students share their games and demonstrate what they learned.
- ☐ Ask students to think back on the design process by responding to the reflection prompts in their design journals or in a group discussion.

RESOURCES

- ☐ Extensions handout
- ☐ Extensions studio
<http://scratch.mit.edu/studios/475619>

REFLECTION PROMPTS

- + What are different ways of increasing difficulty in a game?
- + Which extensions did you add to your game project?
- + Describe your process for including the extension(s) in your game?

REVIEWING STUDENT WORK

- + Were students able to incorporate extensions into their original game projects?

NOTES

- + To provide more scaffolding for students needing extra support, we suggest walking through one extension sample program (e.g., levels) as a class and helping students add the extension to their game projects.
- + The backpack tool is one way students can incorporate parts of the extension projects into their starter games. Learn more about backpack at <http://bit.ly/scratchbackpack>

NOTES TO SELF

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

EXTENSIONS

HOW CAN YOU EXTEND AND REIMAGINE GAMES IN SCRATCH?

Get into game design by adding extended features within your Scratch project! Choose at least one (or more!) of the following extensions and add it to your previously started maze, pong, or scrolling games.

START HERE

- ☐ Go to the Extensions studio:
<http://scratch.mit.edu/studios/475619>
- ☐ Choose one (or more) of the extensions to explore.
- ☐ Incorporate your choice into your previously started game projects!

- + **SCORE** <http://scratch.mit.edu/projects/1940443>
Demonstrates how to set and change a score. Receive 10 points every time the Scratch cat is clicked.
- + **LEVELS** <http://scratch.mit.edu/projects/1940453>
Demonstrates how to change levels. Score increases by 1 every time the space bar is pressed. Level increases by 1 for every 10 points.
- + **TIMER** <http://scratch.mit.edu/projects/1940445>
Demonstrates how to use a timer. Use the mouse to navigate the Scratch cat to Gobo.
- + **ENEMIES** <http://scratch.mit.edu/projects/1940450>
Demonstrates how to add an enemy. Avoid the tennis ball by using the up and down arrow keys.
- + **REWARDS** <http://scratch.mit.edu/projects/1940456>
Demonstrates how to collect items. Use the arrow keys to move the Scratch cat around to collect quest items.
- + **MOUSE** <http://scratch.mit.edu/projects/25192659>
Demonstrates how to program the mouse to control game play. Move the mouse to move the paddle.
- + **RESTART** <http://scratch.mit.edu/projects/25192935>
Demonstrates how to make a button to restart the game. Click on the RESTART button to restart.
- + **MENU** <http://scratch.mit.edu/projects/25192991>
Demonstrates how to display a menu screen at the beginning of the game. Click START or DIRECTIONS on the menu screen.
- + **MULTIPLAYER** <http://scratch.mit.edu/projects/25192711>
Demonstrates how to add another player to the game. Player 1 uses the arrow keys to navigate Pico through the maze, and player 2 uses the W, A, S, D keys to navigate Nano through the maze.

THINGS TO TRY

- + The backpack can be an extremely useful tool while programming in Scratch. It can store everything from lines of code, to music files, to sprites, and more. Try using it to incorporate extensions into your game projects.
- + Alternatively, sketching out ideas and bits of code in your design journal is another great method for planning how to incorporate your extensions.

FINISHED?

- + Add another extension to your maze, pong, or scrolling game.
- + Challenge yourself to do more! Continue going through each of the extensions and add them to your games.
- + Help a neighbor!
- + Share your project with a neighbor and give each other feedback on your games.