

# ADVANCED CONCEPTS

 SUGGESTED TIME  
30-45 MINUTES

## OBJECTIVES

By completing this activity, students will:

- + gain more fluency with computational concepts (events, parallelism, data) and practices (experimenting and iterating, testing and debugging, reusing and remixing, abstracting and modularizing) by creating a project exploring video sensing or cloning

## ACTIVITY DESCRIPTION

- Use the Advanced Concepts, Video Sensing examples, and Cloning examples studios to show examples and help students get familiar with blocks that control video sensing and cloning. Optionally, have the Advanced Concepts handout available to guide students.
- Give students time to explore the code of example programs to create a project that experiments with one or more of the advanced concepts (video sensing, cloning).
- Encourage students to share their explorations with others. We suggest hosting design demo presentations. Optionally, have students add their projects to the Advanced Concepts studio or a class studio.
- 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

- Advanced Concepts studio  
<http://scratch.mit.edu/studios/221311>
- Video Sensing handout
- Video Sensing examples studio  
<http://scratch.mit.edu/studios/201435>
- Cloning handout
- Cloning examples studio  
<http://scratch.mit.edu/studios/201437>

## REFLECTION PROMPTS

- + Which advanced concept(s) did you choose to explore?
- + What was your strategy for learning more about the concept(s) you selected?

## REVIEWING STUDENT WORK

- + Do projects explore one or more of the advanced concept(s)?

## NOTES

- + Students who want to explore the video sensing feature will require a computer with a webcam.
- + Remind students that the backpack tool can be used to borrow and remix code from example projects.

## NOTES TO SELF

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