Plan: Collect Game

Blue Level Unit 4

Objectives

In this activity, students will:

- plan for the creation of a fully-customized collect game.
- demonstrate an understanding of variables that can set and keep score.
- create an open-ended project in Scratch that responds to user keyboard input and changes score when sprites are collected.

Activity Description (45-60 minutes)

5 min.	⭐ **INTRODUCE** Introduce the idea of creating a Collect Game in Scratch driven by **variables**. Consider showing project examples from your other classes, or from the examples on the lesson webpage.
5 min.	💥 **MINI-LESSON** *(optional)* As needed, review the concept of **variables** using p. 14 (EN / SP) and/or the idea of controlling user **inputs** using p. 12 (EN / SP) in the Blue Level Student Workbook. Explore how to add, name, and display a variable in Scratch. Have students brainstorm variable names that make sense to a user playing the game.
15-20 min.	📝 **PLAN** Use the Collect Game Planning Guide (EN / SP) to help students plan on paper for the project they want to create in Scratch. Encourage them to complete as many of the brainstorming questions as necessary, and to sketch the images of the stage, sprites (1 collector and 2+ things to collect), and code blocks they plan to use to create their project.
15-25 min.	🚧 **BUILD** Provide students with work time in Scratch to begin creating their Collect Game project. Remind students how to navigate to the Scratch website, log in to their account, and click “Create” to start a new project. Encourage students to name their project and share it to a class studio before they begin building. Use the Collect Game Planning Guide (EN / SP) and Collect Game workbook page p. 16 (EN / SP) to help guide students as they continue planning and creating in Scratch.

	Remind students that they will need two blocks when adding a variable: the “set my variable to” block to initialize the variable to its starting value, and the “change my variable by” block to update the value as the game progresses. The score should be set to 0 when the green flag is clicked, and the “change my variable by” block should only run if the collector sprite touches an item to collect. Encourage students to work together, ask each other for help, and share what they are figuring out. Identify “student experts” for Scratch-specific tasks who can help their peers (i.e. using the sound blocks, adding a backdrop, changing the color of a sprite).
5 min.	📓 **REFLECT** Ask students to think back on their experience planning for their Collect Game project today by responding to these reflection prompts: • How did the planning guide help you start your project in Scratch? • What are you excited to add to your Collect Game project next class?

Reviewing Student Work

★ Are students able to think through the elements of their Collect Game project with the planning guide? Were they able to use the brainstorming section as well as the areas to sketch sprites and code blocks?

★ Are students able to create scripts to control all 4 arrow keys for the collector sprite? Are they able to use conditional blocks to program the collector sprite’s response to the sprites being collected?

★ Are students using variables to set an initial value and then continuously update it based on the conditional blocks?

★ Are students initializing their programs with the “when green flag clicked” event block? Do all elements of their programs reset (location, size, graphic effects, costume, backdrop)?

Lesson Notes

➕ Utilize a variety of resources to help students who get “stuck” while working on their project in Scratch. Encourage them to ask peers for support, explore Scratch tutorials or Starter Cards, or utilize one of these strategies to get unstuck!