Lesson 2: Backgrounds and Start on Green Flag Triggering Block

In this lesson, students will learn how to select a background for their project and how to use the Start on Green Flag triggering block to give starting conditions for their scripts. They will learn that the Green Flag button will also reset the character's starting position. They will also learn that scripts can run concurrently.

Discussion (5-10 minutes):
If you tap on a script, it will run. But what if you want two scripts to run at the same time? (Notice the green flag at the top of the screen, and the yellow triggering blocks.)

What can you do with two scripts running at the same time that you can't do with only one script running? (Do two separate motions at the same time, such as Move Right and Move Up, which will cause the character to travel in a diagonal line, or move while playing a sound.)

After you run a script, you will probably want your character to return to its starting position so that next time you run the script, the character will do the same thing, in the same place on the screen. The green flag will do this for you. So will the reset button at the top of the screen and also the blue reset block if you put it at the end or beginning of a script.

Mechanics – Backgrounds, Yellow Blocks, and the Green Flag Button (5-10 minutes).
1. Add a background to your project:
   * Tap on the Background icon.
   * Select the desired background
   * Tap the check mark to continue.
2. Review motion blocks:
   * Drag some blue blocks to the programming area.
   * Snap them together to make a script
   * Tap on the script to see the cat move.

- For the "turn right" block, see if students can figure out how many turns will make a full circle (Answer: 12). They will need this for the cartwheel exercise.
3. Show how to use the Green Flag triggering block:
   - Tap on the yellow block to reveal the triggering blocks in the palette.
   - Drag the "Start on Flag" block to the programming area and snap it onto the script.
   - Tap on the Green Flag at the top of the screen to show how the cat moves.
   - Show the difference between tapping on the Green Flag button and tapping on the script in the programming area. (The Green Flag button will first reset the character to its starting position and then run the script. Tapping on the script will only run the script.)

Self-directed work (20 minutes):
1. Make the cat walk diagonally. (You will need two scripts for this, each starting with a Green Flag)
2. Have the cat do a cartwheel. (Use the turn block and the forward movement in two different scripts)
3. Using the "Park" background, position the cat on the first stepping stone. See if you can get the cat to hop on the remaining 3 stepping stones by pressing the green flag only once. (You will need a combination of jump and upward movement blocks in one script, and regular forward movement in a second script.)
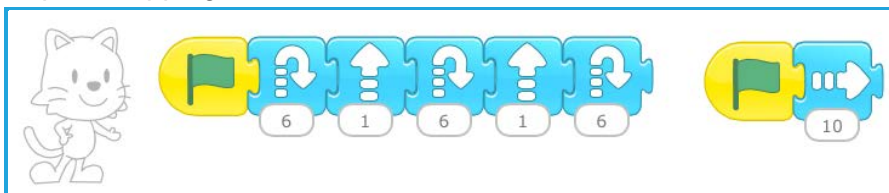
Here are scripts that will work for these exercises.

    1. Diagonal walking:
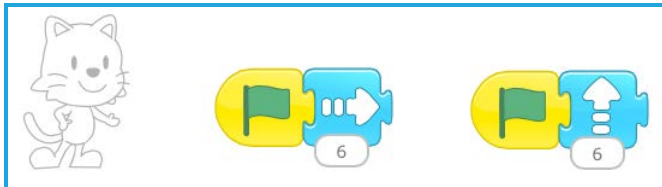
    2. Cartwheel:
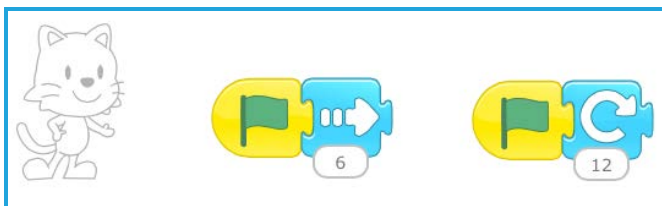
    3. Hop on stepping stones:

Wrap-up (5-10 minutes):
Ask a student who completed a task to show his or her project to the class. Do this for all three tasks.