Workshop 3: Let's Play!

Grades: 3-9
Time estimate: 60 minutes

Learning objectives

- Learn the programming concept of variables
- Master ability to create variables in Scratch

Materials

- At least one computer per child
- Access to Scratch
- Overhead projector

Warm up

[5 min.]

Objective : Understanding data

Introduce students to a pedometer, or any computing device that stores data
Explain and demonstrate its functionality.
Class has fun counting steps or recording another type of numerical data.
Point out that many of the blocks used in Scratch are variables.
E.g. direction, position, size, colour. But we can also make our own!

Activities

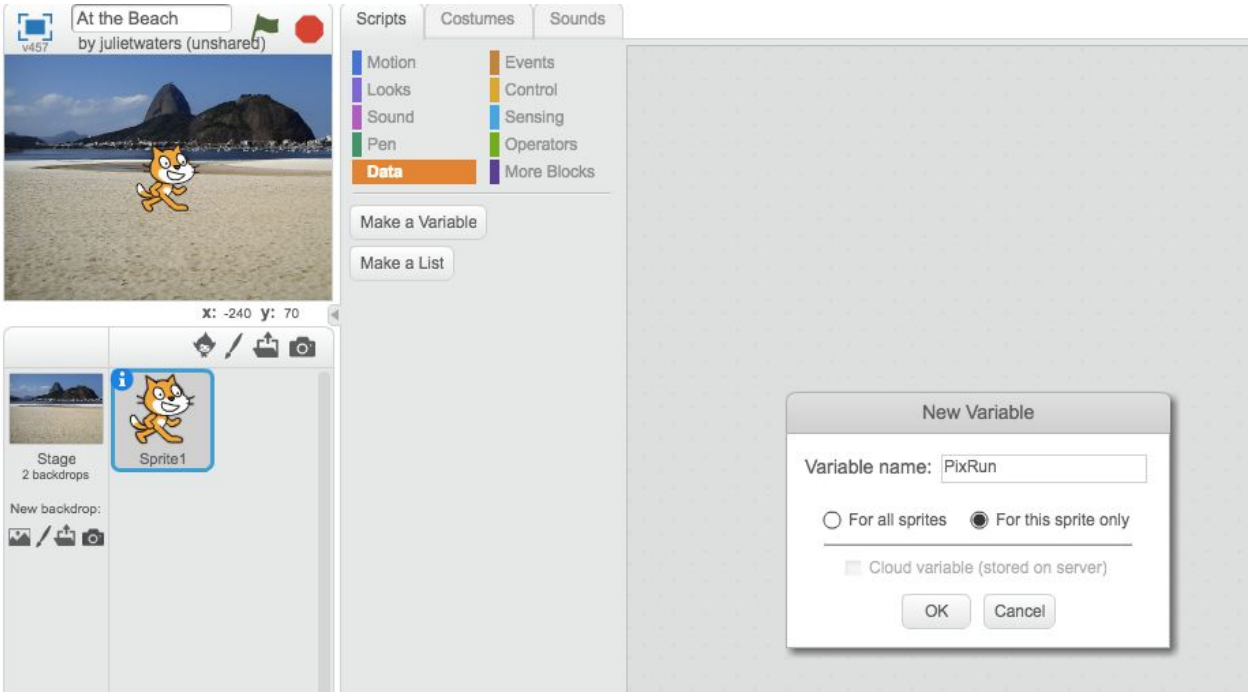
[45 min.]

Build a pedometer

[10 min.]

Objective : revisit movement blocks and create a pedometer for a sprite.

- Students build a basic forever loop, as they did in workshop 1.
- Students create a variable called pixRun



- The students place set pixRun to 0 in the script section.
- The students place change pixRun in the loop and set it to 10.

Build a game
[15-20 min.]

Students use a loop and a variable to play a game called Chase the dragon.

Completed project https://scratch.mit.edu/projects/174047996/

Goal of the game: Click on the dragon to score points

`Programming challenge:

1. Students build a forever loop for flying dragon
2. Students build a reset sequence with **point in direction 45 degrees** and **set rotation right to left**

3. Students create variable named **Dragon** and put **Set Dragon to 0** in the reset sequence.
4. Students create a third sequence that, once the dragon is clicked:
    - Makes a sound
    - Changes to fire breathing "costume," then changes back
    - Scores 1 point
    - Makes the dragon disappear
    - Brings back dragon so that game can continue

Blocks used:

Add more sprites, more blocks

[15 min.]

Students can add more blocks to their loops, and/or create other sprites who are worth more. They can also experiment with **wait** blocks to slow down the loop or timing of their other sequences. .

Integration

[5 min.]

Students share strategies, discoveries, challenges and successes.

Practice

Students can learn more about games in the tips section of Scratch. Or with a Code Club Canada project like Ghostbusters.
https://codeclubprojects.org/en-GB/scratch/ghostbusters/