

Computer Club – Lesson 2

What is a Scratch

Approximate Time: 40 minutes

Supplies Needed:

Scratch an educational freeware programming environment
Handout of layout of the Scratch environment
Handout with first program in Scratch

Objectives:

Be familiar with the concept of object oriented programming.
Be able to navigate the controls within the Scratch environment
Be able to code a basic program in Scratch.

Anticipatory Set (Grab attention):

What is your favorite retro game? By the end of our time together, we will show you a asteroids coded in Scratch.

Essential Question:

What is Scratch

Big Idea (answer):

Scratch is a tool for programming movies and games.

(Technical answer: Scratch is a utility that allows users with limited computing experience to learn techniques of object-oriented programming through interactive elements such as movies, or (simple) games.)

Lesson:

- 1.) Give basic (verbal) run through of the layout of Scratch.
- 2.) Walk through programming a simple program in Scratch (2 options)
 - a. Open scratch and using the first sprite have it move 10 units forward, when the right key is pressed. Then have it move 10 units backwards when the left key is pressed. Building on this activity have it reset the sprites position to x=4 y=1 when the r key is pressed. Now go and modify the stage properties and under the background tab create three or four backgrounds, then write a function when the stage is clicked, the background will change or cycle through the 4 backgrounds. Write conditional if statement to reset to stage parameters. (Estimated time = 10 – 15 minutes.)
 - b. Follow handout of a simple program of moving a sprite while playing a sound.
- 3.) Introduction to the Pico boards use the sample program of the day and night (sun) and the electronic scratch trumpet program. (5 minutes)

Closing Activity (did they get it):

Breakup into groups and design a scratch game which involves at least two keyboard interaction, one mouse interaction, two sprites and at least one sound. Feel free to explore additional parameters such as timers, loops, if-statements and background modifications. Estimated time: 15 – 20 minutes.