**Instructional Days**: 7-8

**Topic Description**: This lesson introduces the concept of event driven programming and provides practice through the creation of an alphabet learning game.

**Objectives:**

The students will be able to:

* Explain event driven programming.
* Write a program that responds to user created events from the mouse and keyboard.

**Outline of the Lesson:**

* Presentation of solution for baseball extra credit (10 minutes)
* Journal Entry (10 minutes)
* Event lecture/description of Alphabet Learning Game (20 minutes)
* Alphabet Learning Game (60 minutes)
* Student presentations (10 minutes)

**Student Activities:**

* Present solution for baseball extra credit.
* Complete journal entry.
* Develop an Alphabet Learning game.
* Volunteers complete presentations.

**Teaching/Learning Strategies:**

* Presentation of solution for baseball extra credit
  + A student may present while others watch. If no student completed the extra credit, teacher presents. See baseball solution.sb from previous lesson.
* Journal entry: How do the programs on the computer know what the user wants to do next? In other words, if you are surfing the web, how does the computer know what page to go to next?
* Event lecture/description of Alphabet Learning Game
  + Allow some students to share journal entry with class. Steer them towards the idea of user events (clicks, typing) driving the program and causing it to respond.
  + Scratch provides some blocks that allow you to write programs that respond to user events relatively easily.
    - When green flag clicked (we’ve already seen this)
    - When Sprite clicked
    - When \_ key pressed
  + Tell students that they will be making an alphabet learning game.
  + Share Alphabet Sample Rubric with the students.
  + Create the first letter in front of the class with the students helping you. See alphabet learning.sb.
    - Show how to create new costumes.
      * Explain that students may bring in pictures from the internet.
        + Download a .gif or .jpg.
        + Use import or paint to make it the second costume for your letter.
    - Show how to change costumes.
      * Use a “switch to costume \_” block.
    - Show students how to output in talk bubbles.
      * Use a “say \_ for \_ sec” block.
  + Remind students that they may pick the theme of alphabet game (animals, food, etc).
* Alphabet Learning Game
  + Circulate room and answer questions.
* Voluntary student presentations
  + Facilitate students in presenting.

**Resources:**

* alphabet learning.sb
* Alphabet Sample Rubric

**Alphabet Sample Rubric**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Do you have?** | Points  Possible | Yes | No | Points  Earned |
| Have at least 10 different letters. | 4 |  |  |  |
| Have a theme for your letter game (i.e. animals, food, etc.) | 3 |  |  |  |
| Sprites change costume when clicked on. | 4 |  |  |  |
| Sprites change costume when letter is typed on keyboard | 4 |  |  |  |
| Use the “say \_ for \_ sec” to output what the letter stands for (i.e. “E is for Elephant”) | 3 |  |  |  |
| Sprites all turn to letters when the “when green flag clicked” | 2 |  |  |  |
|  |  |  |  |  |
| **Extra Credit** |  |  |  |  |
| Use a microphone to record sounds for all the letters and play the sound when the letter is clicked or typed (i.e. “E is for Elephant”) | 2 |  |  |  |
|  |  |  |  |  |
| **TOTAL:** | **20** |  |  |  |