Teacher's Name: Ticey Little

Domain: Exploring Computer Science

Date Range: February 17, 2025 – February 21, 2025

ACOS Standard:

4 - Use and adapt classic algorithms to solve computational problems.

Student Friendly Outcome:

Unit 3: Programming

I CAN name the basic terms used in Scratch.
I CAN create the beginning of a simple program in Scratch.
I CAN build upon previous units to explore the concept of identity through personalized projects.
I CAN demonstrate how programming can be used to express and explore cultural and personal identity.
I CAN revise name projects responding to comments & feedback (Iterative process of programming.

Monday	Tuesday	Wednesday	Thursday	Friday
School Closed Bad Weather Day	(Continued from last week) Journal entry (10 min) Investigate features of Scratch (25 min) Design name project (20 min)	(Continued from last week) Complete name project (55 min)	(Continued from last week) Gallery walk of name projects (15 minutes) Revise programs responding to comments/feedback (30 min) Journal entry (10 min)	(Continued from last week) Participate in activity to learn what makes an effective dialogue (5 min) Develop a written dialogue (15 min) Program the written dialogue (25 minutes) Student presentations (10 minutes)

Instructional Lesson # 1. Days 1-4

Topic Description: This lesson introduces the Scratch programming language, including the basic terms utilized in the language, through student's names, identities and cultures.

Objectives:

The student will be able to:

- Name the basic terms used in Scratch and create the beginning of a simple program in Scratch
- Build upon previous units to explore the concept of identity through personalized projects and demonstrate how programming can be used to express and explore cultural and personal identity.
- Revise name projects responding to comments & feedback (Iterative process of programming)

Outline of the Lesson

Segment	Reason/Purpose
Day 1 Journal entry (10) Complete Scratch KWL chart (15) KWL Chart discussion (10) Journal entry (10) Name discussion (10)	Establish the different knowledge levels of Scratch Discuss names & how they represent/tie to a person's identity
Day 2 Journal entry (10) Investigate features of Scratch (25 min) Design name project (20 min)	Explore Scratch
Day 3 Complete name project (55 min)	Implement first program using Scratch features
Day 4 Gallery walk of name projects (15 minutes) Revise programs responding to comments/feedback (30 min) Journal entry (10 min)	Give feedback about name projects and how accurately they reflect identities Learn the iterative process of programming by revising programs in response to feedback

Student Activities

Day 1

- Complete journal entry
- Complete Scratch KWL

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- KWL Chart Discussion
- Complete journal entry
- Name discussion

Days 2
- Complete journal entry
- Investigate features of Scratch
- Design name project

Day 3
- Complete name project

Day 4
- Gallery walk of name projects
- Revise programs responding to comments/feedback
- Journal entry

Teaching/Learning Strategies:

Day 1

- Journal Entry**:** *Reflect on the various themes you've encountered in this class so far- community, identity and technology- how do those themes help us understand our place in the world?*
    - Explain that Scratch is a block-based programming language. Students will learn the different features of Scratch to build increasingly complicated programs. Students will use the pair programming model to design, program & revise their programs. The themes of identity & community will be explored and represented in the programs created throughout the unit.
    - Discuss what it means to program a computer. Remind students that in Unit 1 they learned about following directions and in Unit 2 they learned about algorithms. Discuss the ways in which programming can overcome constraints or create additional ones. Remind them that in the previous unit they used a markup language to provide instructions to the computer on the layout and content of web pages. Programming languages are used to translate algorithms into a language that a computer can execute.
- Complete KWL chart
    - Students meet in groups of 2-3 and each group completes a KWL chart. (Know, Want to Learn, Learned) related to Scratch
- KWL chart discussion
    - Students take turns sharing out their K's and W's orally. Encourage them not to repeat anything that has already been said. Put KWL charts up in the classroom; tell students that they will finish the L towards the end of the unit.
    - Wrap up the discussion by previewing their first Scratch project and a conversation about the meaning of names.
        - You are going to create a Scratch program to animate the letters of your preferred name, to reflect the meaning of your name and how it relates to your identity. Remind students of their unit 1 discussion and website they created about identity.
        - What does the name Scratch suggest about how it might be used to create and explore?
        - Who makes up names and gives them meaning?

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- PBS- Say It Loud- "Black Sounding" Names and Their Surprising History
    - Suggested Clips:
        - Introduction: 1:00-2:25
        - Middle Passage 2:54-4:22
        - Civil Rights & Islam: 4:31-5:56
        - Creole & French: 7:12-7:57
        - Creating new names: 7:58-8:35
        - How the hosts got their names: 8:48-9:48
        - Why is this important?: 10:52-11:56
- PBS- Origin of Everything- "Why Do We Have Middle Names?
        - Suggested Clips:
        - History of: 0:00-2:11
        - Paternal & Roman Names: 2:20-3:25
        - Not in the Middle: 3:36-4:04 (Korean middle names)
        - Not in the Middle: 4:10-4:43 (Spanish middle names)
        - MIddle Initial: 4:50-5:20
        - Why is it important?: 5:20-5:49
- Journal Entry: *What is the story of your given name (either first/middle/last name): Who chose the name? Why was this name chosen? What is your preferred name? Do you use your given name or another name (nickname,..)? Why/why not?*
    - Students elbow share, then share in groups of 4-5

Day 2

- Journal Entry**:** *Choose 2 letters from your preferred name. What would these 2 letters look like /do if you were to turn each into an animation that represents your identity & interests?*
    - Sample answers: Letter T will turn into a bike representing my favorite mode of transportation, Letter E will say: Hola, Hi, Salaam,...
    - Each student shares one letter, its animation and how it relates to the student's identity/name meaning.
    - Bring it all together- help students make the connection between names, visual representations, symbolism, and how those can be combined to create animations of their own names.
    - Additionally, talk about the word abstraction. Students will see it in later lessons and should become familiar with it.
    - Remind students that they are going to create a Scratch program to animate the letters of their preferred name, to reflect the meaning of their name and how it relates to their identity. Scratch has many features that they can use to create the animation.
- Investigate features of Scratch
    - Prior to lesson: Address how sound will be handled in the classroom.
        - Ensure that each student has access to a computer with Scratch cloud access or installed. (Check with IT and make sure not blocked. A couple weeks may be needed.
        - Scratch lends itself to playing sounds so it can get noisy. Headsets with microphones are one possible way to address it.
    - Begin the Scratch interface exploration by demonstrating how to navigate and use key features. This helps students feel more comfortable before engaging in hands-on activities.
    - Assign students in pairs. Instruct students that in pair programming one person is the "driver" and does the clicking and typing. The other person is the "navigator" and describes to the driver what to do at each step. Students should trade roles every 5–10 minutes. Keep track of the time

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and announce that students should switch at regular frequencies. Make sure students trade and that both students are contributing equally. This strategy will be used often throughout the unit. Emphasize the importance of collaboration during pair programming. Encourage students to communicate effectively and switch roles regularly.

- Display the Scratch interface and show students how to open the name tutorial, by looking under the tab labeled *Ideas*.
- Have students explore and try to determine what the various blocks do.
  - Encourage students to experiment. They can't break the computer by dragging the wrong block.
  - Show students where they can access ScratchGettingStarted.pdf and/or the Tutorials section of Scratch.
- Stop after about 20 minutes and do a quick debrief of what they have discovered so far. Ask questions that get students to discuss the following features:
  - Every character in Scratch is called a Sprite.
  - How to choose a Sprite from a file
  - How to paint your own sprite
  - Each sprite has its own scripts.
  - You can right-click any block and select help to get more information on how to use it.
  - How to change the language in Scratch (for your English Learners)
  - How to go to full screen mode and back
  - How to switch back and forth between sprites by clicking on them
  - X- and Y-coordinates on the screen are shown on the bottom right below the stage.
  - Demonstrate how to change the background:
    - Choosing a background from the background library
    - Uploading an image as background

- Design Name Project
  - Explain that before the programming starts they will spend the rest of today completing the plans for animating each letter of their preferred name to reflect a different part of your identity, interests.
  - Since students will be working in pairs, they each will decide on what blocks to use to animate their individual names and display both names and their animations when the program executes.

Day 3

- Complete Name Project
  - Students follow their plans from day 2 to execute the animation of their names
  - Show them the rubric for the Name project. (See resources)
  - Students can draw or use the sprites included for the letters; identify colors and actions.

Day 4

- Gallery walk
  - Students follow an order provided by the teacher to review 3-4 name projects. They write comments or questions on post-it notes for each project reviewed. Students should consider the following when reviewing the projects:
    - What did they understand about the identity of the owner of the project from the animation?
    - Was the animation effective in communicating the identity/interests of the project

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owners?
        - What could be added to the project to strengthen its representation of the identity of its owners?
    - Provide sentence starter sample for comments:
        - I liked ……
        - I wonder how….
        - Why / how did you …….
    - Encourage students to use these starters when writing feedback on the name projects.
    - Provide the order of project viewing. Consider spacing groups around the room rather than staying at their desks.
- Revisions
    - Students read comments & feedback.
    - Discuss / plan with partner at least one change in each name
    - Execute plans & revise programs
- Journal entry: *Write one new piece of information you learned about one of your classmates through their project? How was it represented? Why was this representation effective?*

Resources

Review the getting started guide and create a teacher account using the following links. Consider sharing the Getting Started Guide with students ahead of time. Check out Scratch on the landing page and explore the activities you will have students complete. Check out the scratch tips page and consider sharing that with students as well. Use the sample rubric to grade the finished Scratch programs.

- Getting Started Guide: https://resources.scratch.mit.edu/www/guides/en/Getting-Started-Guide-Scratch2.pdf
- Teacher Accounts: https://scratch.mit.edu/educators/#teacher-accounts
- Scratch Landing Page (http://scratch.mit.edu)
- Scratch Tips page: https://scratch.mit.edu/ideas
- Name Sample Rubric
- Scratch Files (www.exploringcs.org/curriculum)

Teacher Reflection Notes

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Name Sample Rubric

Do you have	Possible Points	Yes	No	Points Earned
A separate sprite for each letter of your name?	5			
At least 3 different interesting behaviors for your name	5			
All the letters have a behavior	4			
The “forever” block	3			
Can you explain the meaning of your new name?	3			
Total	20			

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Instructional Lesson # 2. Day 5

Topic Description: This lesson describes how to create a dialogue between two sprites by first creating a written dialogue. The discussion of names & identities is continued from the first lesson as the focus of dialogue.

Objectives:

The student will be able to:

- Continue the discussion of identity & names and develop a written dialogue then program it using Scratch.
- Explain the reasoning behind how their dialogue works.

Outline of the Lesson

Segment	Reason/Purpose
Participate in activity to learn what makes an effective dialogue (5 min) Develop a written dialogue (15 min) Program the written dialogue (25 minutes) Student presentations (10 minutes)	Student learn how to sequence events by creating a dialogue in which characters wait for each other to finish before talking Students share out challenges/successes

Student Activities

- Participate in activity to learn what makes an effective dialogue
- Develop a written dialogue (10 min)
- Program the written dialogue (20 minutes)
- Student presentations (10 minutes)

Teaching/Learning Strategies

- Participate in activity to learn what makes an effective dialogue
    - Teacher has a dialogue between 2 characters written and asks a student to read one part of the dialogue while the teacher reads the other part, occasionally interrupting the student.
    - Students discuss the rules of polite conversation where everyone cannot interrupt and waits for their turn to talk.
    - students discuss why they need to use the “wait _ sec” block in addition to using “say _ for _ secs” blocks.
- Develop a written dialogue
    - Students develop a dialogue about their animation choices for their name project. The dialogue needs to be at least 5-6 sentences for each character.
        - Example:
          Student 1: What did you choose to animate your first letter to do?
          Student 2: My first letter says the traditional greeting I use in my family.
- Program the written dialogue
    - Students write a program using their developed dialogue using :say_for_secs” & “wait _sec blocks” & test their programs to make sure that characters are not interrupting each other.
- Student presentations (10 minutes)

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- Choose 2-3 dialogues to run. Allow students to discuss how they choose the values for the different “wait_sec” blocks. Discuss challenges if they decide to change the length of one sentence or more in the dialogue, foreshadowing the need to use a better mechanism to create sequences (broadcasting)

Resources

- No additional resources needed

Teacher Reflection Notes

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