**Lesson created by the GMU-ODU CSforAll Team. For more information about**

**this lesson and our CSforAll initiative, contact Dr. Amy Hutchison at** [achutchison1@ua.edu](mailto:achutchison1@ua.edu)

|  |  |  |
| --- | --- | --- |
| **Unit 1 Lesson 2: Scratch and CoCo Level 1**  *5th and 6th Grade* | | |
|  |  |  |
| **Concept: Patterns and Sequencing** | | |
| **Vocabulary:**   * sequencing * pattern * algorithm * commands * program * Code * Pair programming (Optional) * Graphic Organizer * CoCo * Costume | | |
| **Summary:**  In this lesson, students will learn about CoCo, a graphic organizer to help with planning writing and coding. | | |
| **Lesson Objectives (learning targets): I can…**  • Review Scratch and CS Vocabulary  • Identify the purpose of Coco (planning tool for coding & writing)  • Locate features within Coco Level 1  • Using Coco, select and drag blocks to code in Scratch  • Identify and operate change costume block | | |
| **Content Standard(s)** | **Computer Science Standard(s)** | |
| The student will write in a variety of forms:  a) Engage in writing as a process  b) Identify audience and purpose  c) Use a variety of pre-writing strategies | The student will construct sets of step-by-step instructions (algorithms), both independently and collaboratively  a. using sequencing  b. using events | |

|  |
| --- |
| **Materials** |
| **Lesson materials:**   * Teacher slide deck * Student [slide deck](https://www.dropbox.com/scl/fi/de1z03f9c70noewlruvvm/(Student-Copy)-Unit-1-slides.pptx.pptx?dl=0&rlkey=w9yoeuxwm5aojjbhw6jteslja#slide=id.g12af82f979c_0_75) * Scrambled Scratch code link: <https://scratch.mit.edu/projects/833196392/> * Solution video: <https://bit.ly/3Zg1Ksc>   **Supplemental resources:**   * Reflection exercise: <https://www.dropbox.com/scl/fi/a4udxqa7clllbjalcawtq/Reflection.pptx?dl=0&rlkey=fjrcltj14ognwloxjvgg4lszx> |

|  |
| --- |
| **Lesson Structure and Activities** |
| ***Prior to beginning this lesson, the teacher should have assigned each student a story in Level 1 of CoCo. Please name the assignment “Unit 1, How to Make Hot Chocolate.”***  ***Students should use the same naming strategy for their final Scratch Project:***   * + *“Student Name + Unit # + Descriptor”, for example, “Johnny Unit 1, How to Make Hot Chocolate”*   **(10 min) Warm-up & Introduction:**  **NOTE: All slides for this lesson are scripted so that, if needed, you can see exact definitions and instructions for teaching this lesson in the notes at the bottom of the teacher slide deck.**   1. (Optional) Introduce expectations and necessary resources (slides 1-3) 2. Review Scratch Blocks and CS Vocabulary from last lesson (Slides 4-15) 3. Introduce today’s objectives (slide 16) |
| **(15-20 min) Direct Instruction & Guided Practice:**   1. Introduce “Change Costume” block and model how to use (slide 17)    1. Model multiple ways that students can change costumes (slides 18-19) 2. Guide students to open Scratch (slide 20)    1. Instruct students to       1. Add a Sprite       2. Change the Sprite’s costume at least twice 3. Explain that when you are planning to code or to write, there are certain pattern of steps that we may follow each time. We can use a graphic organizer to help us. (slides 21-22) 4. Introduce CoCo, the graphic organizer (Slide 23)    1. Model the features of CoCo (Slides 24-30)    2. Model how to toggle between Scratch and Coco or use the video provided on slide #31. |
| **(25 min) Independent Practice:**   1. Instruct students to open and log into CoCo Level 1 and Scratch (slides 32-34) 2. Share “[Scrambled” Code in Scratch link](https://scratch.mit.edu/projects/833196392/) with students. The project contains all the code students need to run the animation but not in the correct order. (slides 32-34) 3. Instruct students to put the Scratch project code into the correct sequence using CoCo Level 1 as a guide. **They will not need to add or edit any blocks.**    1. Advise students that what they are coding in Scratch should match the text in CoCo. If they follow what’s in CoCo Level 1, their final product should be identical to the solution video. 4. Compare students’ Scratch projects with [solution video](https://bit.ly/3Zg1Ksc). Do they match? (slide 35) 5. Optional Extensions:    1. If students finish early, encourage students to try another way to change the costume of the sprite in the animation in Scratch. (slide 36)    2. Place students into groups of two. Push out the link to the [reflection exercise](https://www.dropbox.com/scl/fi/a4udxqa7clllbjalcawtq/Reflection.pptx?dl=0&rlkey=fjrcltj14ognwloxjvgg4lszx). As one partner runs their Scratch animation, the other should fill out the prompts in the exercise. |
| **(5 min) Wrap up:**  Students should work with a partner to check their code for errors and fix where necessary. Bonus challenge: Can students change a costume again? (slide 37) |
| **Assessment Strategy:**  Did the student…   * Review Scratch and CS Vocabulary * Identify the purpose of Coco (planning tool for coding & writing) * Locate features within Coco Level 1 * Use Coco to select and drag blocks to code in Scratch * Identify and operate change costume block |