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

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| **Unit 2 Lesson 2 Abstraction** *5th and 6th Grade* | | |
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| **Concept: Abstraction** | | |
| **Vocab:**   * Scratch sound blocks (review) * Scratch look blocks:   + Hide character   + Show character   + Change size   + Change color | | |
| **Narrative/Summary:**  In this lesson, students will begin populating the CoCo graphic organizer with their written instructions. They will practice using new blocks in Scratch. | | |
| **Lesson Objectives (learning targets): I can…**   * Review abstraction and Scratch blocks * Distinguish between features in Coco Level 2 and Coco level 3 * Add my writing (from last time) to CoCo (level 3, column 1) * Identify and use Sound and Look Blocks, including Ghost effect * Modify writing after editing and reviewing with a peer | | |
| **VDOE ELA Standard(s)** | **VDOE Computer Science Standard(s)** | |
| The student will write for a variety of purposes.  d) Use strategies for organization of information and elaboration according to the type of writing. | The student will construct sets of step-by-step instructions (algorithms), both independently and collaboratively  a) using sequencing;  b) using events. | |

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| **Materials** |
| **Lesson materials:**   * Personal Computer * Access to the Internet * [Teacher Slides](https://drive.google.com/file/d/1ZbiFuwGP7ioD_PzfBqwc7NZ6tg3thKrV/view?usp=drive_link) * [Student Slides](https://docs.google.com/presentation/d/1hWcaSn-4HvHvFRT8UK9T3-PhPHI5a1Oc/edit?usp=drive_link&ouid=104701427422211502426&rtpof=true&sd=true) * [Your wr](https://docs.google.com/presentation/d/1hWcaSn-4HvHvFRT8UK9T3-PhPHI5a1Oc/edit?usp=drive_link&ouid=104701427422211502426&rtpof=true&sd=true)itten instructions (in the sequencing graphic organizer) from last time * [Coco Link](https://wego.gmu.edu/scratchgo/login.php) * [Scratch link](https://scratch.mit.edu/)   **Supplemental resources:**   * Link to [Scratch tutorial on animating names](https://scratch.mit.edu/projects/editor/?tutorial=name) * Instructions for [How to Share Scratch Products](https://www.dropbox.com/scl/fi/5tyqclimfyxm5w0oduo8i/How-to-Share-Scratch-Products.docx?rlkey=25bxkepw2rdt6hq0pe55ji3ph&st=6ehw2oob&dl=0) |

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| **Lesson Structure and Activities** |
| ***Prior to beginning this lesson, the teacher should have assigned each student a story in Level 3 of CoCo. Please name the assignment “Unit 2 Story.” If you have students who still need more time to practice with CoCo and Scratch, you can assign them to work in Level 2, which provides more scaffolding than Level 3.***  ***Students should use the same naming strategy for their final Scratch Project:***   * + *“Student Name + Unit # + Descriptor”, for example, “Johnny Unit 4 Summary”*   **Warm-up: (2 min)**  **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.**   * (Optional) Read aloud the summary and standards as well as the materials and resources needed for this lesson (slides 2-3). |
| **Direct Instruction & Guided Practice: (5-10 min)**  *Note to teacher: much of this direct instruction is modeled by the speaker in the videos accompanying these lessons.*   * Explain that students will be using CoCo to animate the instructions they wrote in the previous lesson (slide 4). * Introduce students to CoCo level three. You may wish to play [this video embedded in slide](https://www.dropbox.com/scl/fi/mowlkrgcqhkd56cr9b4ti/Level-3-of-Coco-and-Scratch-2-min.mp4?rlkey=5y17idnvr4wzssvkhu4splfyr&st=8j02770p&dl=0) 5. * Instruct them to log in and show them where to enter their text in column one. (slide 6) * Tell students that today they will be working in Level 3 of CoCo unless you have assigned them to work in Level 1 or 2 due to a special learning need. You should have already assigned students a story in the appropriate level in your Teacher Dashboard. |
| **Independent Practice: (15 min)**   * Give students 10 minutes to add their written text to the left hand column of CoCo (slide 7). * Guide students to review and edit their writing with a partner (5 min.) (no slide) * (*Reminder, please require your students to use CoCo)*   **Direct Instruction: (5 min)**   * Introduce additional Look Blocks in Scratch, what they look like, and their function: (slides 8-12)   + Hide character [(video)](https://www.dropbox.com/s/5g4740142xm9j0m/hideblock.mp4?st=ngixxiu7&dl=0)   + Show character [(video)](https://www.dropbox.com/s/893o168rsb0roo9/showblock.mp4?st=lu74i3zs&dl=0)   + Change size [(video)](https://www.dropbox.com/s/c5lcbrrhngpti5i/changesize.mp4?st=5psn9874&dl=0)   + Change color [(video)](https://www.dropbox.com/s/55hwcxl2gnydwsw/coloreffectblock.mp4?st=k14abdwy&dl=0) * Remind students that they learned to change the appearance of their sprite using [the “switch costume” block](https://www.dropbox.com/scl/fi/1idrp8km7xd8n4pvvs758/SwitchCostumeCoCo_Nov16.mp4?rlkey=0shwn17gqhdy441epxfvjws3d&st=ao4lv932&dl=0) in U1L2 (slide 13) * Remind students that they also learned various ways to alter a sprite’s appearance using the “Change effect block” in U1L4 (slide 14)   **Independent Practice: Animate a Word (10 min)**   * Instruct students to practice using the new Scratch sound and look blocks by animating either: their initials, a three-letter word of their choice, or their full name in Scratch (slide 15)   + Directions:     - Choose your backdrop     - Remove the cat sprite     - Add the letters of your initials, word, or name–one sprite per letter!     - Pick a sound and look block for each letter     - Challenge: change the pitch effect on at least ONE of your letters     - Challenge: Change the appearance or Ghost one of your letters   + Optional tutorial videos: <https://scratch.mit.edu/projects/editor/?tutorial=name> |
| **Wrap up: (2 min)**   * Invite volunteers to share their name animations.(slide 16) * Optional extension activity: solve this [Change Size Activity](https://docs.google.com/presentation/d/19GeCJ7phZJC5uho3OuS5A0N7ftneKUDx/edit?usp=drive_link&ouid=104701427422211502426&rtpof=true&sd=true) (slides 17-20) * Remind students to share their [Scratch creation to their teacher’s studio.](https://www.dropbox.com/scl/fi/k2t7ydsi6sdans7gohpft/Student-How-To-Add-A-Project-To-A-Studio-In-Scratch.mp4?rlkey=6jmehhmfutgb3jiirjxynvf29&st=cifroqna&dl=0) |
| **Assessment Strategy:**  Did the student…   * Review abstraction and Scratch blocks * Distinguish between features in Coco Level 2 and Coco level 3 * Add their writing (from last time) to CoCo (level 3, column 1) * Identify and use Sound and Look Blocks, including Ghost effect * Modify writing after editing and reviewing with a peer |