**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**

|  |  |  |
| --- | --- | --- |
| **Unit 4 Lesson 2: Decomposition**  *3rd and 4th Grade* | | |
|  |  |  |
| **Concept: Decomposition** | | |
| **Vocabulary:**   * Decomposition * Summary | | |
| **Narrative/Summary:**  In this lesson, students will be guided through Level 5 of Coco and new features and write and plan their own summaries. | | |
| **Lesson Objectives (learning targets): I can…**   * Write, review, and edit a summary in Coco Level 5 (Column 1) * Plan and self-monitor in Coco Level 5 (Columns 2, 3, 4) * Share my plan with a partner and modify plan based on feedback | | |
| **VDOE ELA Standard(s)** | **VDOE Computer Science Standard(s)** | |
| The student will write in a variety of forms to include narrative, descriptive, opinion, and expository.  a) Engage in writing as a process.  b) Identify audience and purpose.  c) Use a variety of prewriting strategies.  d) Use organizational strategies to structure  writing according to type.  g) Use transition words to vary sentence  structure. | The student will construct sets of step-by-step instructions (algorithms) both independently and collaboratively using sequencing and using loops.  The student will construct programs to accomplish a task as a means of creative expression using a block or text based programming language, both independently and collaboratively using sequencing and using loops.  The student will analyze, correct, and improve (debug) an algorithm that includes sequencing, events, loops and variables. | |

|  |
| --- |
| **Materials** |
| **Lesson materials:**   * Chromebook/Laptop * Internet Access * [Coco Link](https://wego.gmu.edu/scratchgo/login.php) * [Scratch link](https://scratch.mit.edu/) * [Teacher slide deck](https://drive.google.com/file/d/1-n1lSsLUeqfWiybD9pC46LsiwGfqb5To/view?usp=drive_link) * [SWBST & Scratch graphic organizer](https://www.dropbox.com/scl/fi/g9b9go20fx4oimqcsghcl/SWBST_Scratch-Planner-graphic-organizer.docx.docx?dl=0&rlkey=mgv0jfv3kkcgtnydh258bnqph)   **Supplemental resources:** |

|  |
| --- |
| **Lesson Structure and Activities** |
| **Note for Teachers:**   * **Prior to beginning this Unit,** be sure to assign your students a story in CoCo, using **Level 5.** * **Please use the following naming strategy for assigning the story in CoCo:**   + “Unit # + Descriptor”, for example, “Unit 4 Summary” * **Students should use the same naming strategy for their final Scratch Project:**    + “Student Name + Unit # + Descriptor”, for example, “John’s Unit 4 Summary” |
| **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.**   * (Optional) Read aloud the summary and standards as well as the materials and resources needed for this lesson (slides 1-5) * Review Decomposition and Summaries (slides 6-8)   + Remind students of SWBST * Have students share what they would like to summarize with a partner (slide 9) |
| **Guided Instruction and Independent Practice:**   1. Instruct students that they will be writing a summary and planning how to animate their summary today (no slide). 2. Instruct students to open CoCo and add their written summaries into Column 1. (slides 10-12)    1. *Note: Students are writing their SWBST summaries directly into CoCo here.*    2. *Slide 11 models how students can add more rows to CoCo in level 5.* 3. Provide students with the [graphic organizer for summarizing and planning](https://www.dropbox.com/scl/fi/g9b9go20fx4oimqcsghcl/SWBST_Scratch-Planner-graphic-organizer.docx?dl=0&rlkey=mgv0jfv3kkcgtnydh258bnqph) (slide 13)    1. *Note: Students do not need to re-write their summaries. They should be brainstorming and planning how they want to animate their summaries on the paper graphic organizer BEFORE they make those decisions in CoCo, columns 2 &3.* 4. Then, instruct students to plan out their animation for Scratch using Columns 2 & 3 of CoCo from their paper graphic organizer. (slides 14-15)   *(Reminder, please require your students to use CoCo.)*   1. Have students share their plan with a partner and offer suggestions for enhancing or modifying their plan and/or writing. (slide 16) |
| **Wrap up:**   * Ask students to share one new block they are going to try and use in Scratch for their animation (slide 17)   + “Next time, we will be animating our summaries in Scratch. Turn and talk to a partner about which blocks you may want to try to use in Scratch and why.” |
| **Assessment Strategy:** Monitor for understanding while students plan and write their summaries in CoCo. |