

LESSON 5

SCRATCH EXTRAVAGANZA & ANIMATION SHOWCASE

GRADES 5 & 6



Lesson created by the GMU-ODU CSforAll Team. For more information about this lesson and our CSforAll initiative, contact Dr. Amy Hutchison at ahutchison1@ua.edu

Welcome back to learning about computer science and writing!

SUMMARY AND STANDARDS

Summary:

In this lesson, students will co-write an explanatory text. They will use CoCo and Scratch to code and plan an animation using several new look and control blocks.

ELA Standards

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.
- e) Use transition words to vary sentence structure.

CS Standards:

The student will construct sets of step-by-step instructions (algorithms), both independently and collaboratively

- a) using sequencing;
- b) using events.

Today we're going to write several new stories together and bring them to life with our coding projects!

MATERIALS AND RESOURCES NEEDED FOR THIS LESSON:

- Chromebook/Laptop
- Internet Access
- Teacher slides
- Scratch offline editor (app)
- Read-aloud of “How to Code a Sandcastle”:

<http://www.youtube.com/watch?v=EX1OXR7eTME>

- Hard copies of the [Speedwriting storyboard](#) Scratch block [choice board](#)

Reminder:

In this lesson, every student should be **assigned a story in CoCo** using **Level 5**.

The story should be titled “**Lesson 5 Story**.”

Each student should save their work using this naming strategy: “**Student Name + Lesson # + Descriptor**”, for example, “**Johnny Lesson 5 Story**”

You will need....[read slide]

LESSON OBJECTIVES: I CAN...

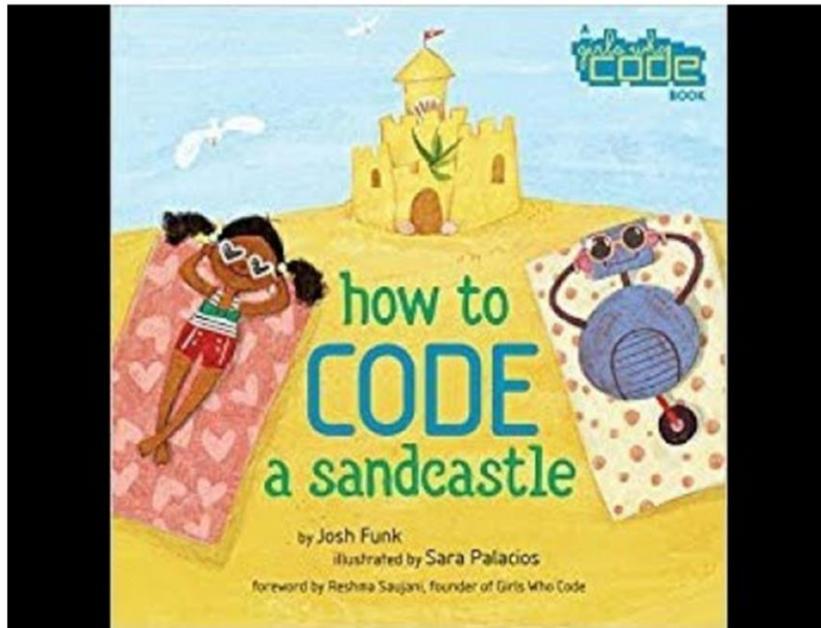
- Understand the main idea of “How to Code a Sandcastle”
- Co-write an explanatory text in a small group
- Plan my animation in CoCo
- Learn about any new Scratch blocks
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- Give feedback on my partner’s animation

[read slide]

WARM UP: HOW TO CODE A SANDCASTLE

Let's start by listening to a fun story about building a sandcastle.

WARM UP: “HOW TO CODE A SANDCASTLE”



1. (watch until 3:36)

<http://www.youtube.com/watch?v=EX1OXR7eTME>

QUESTIONS TO THINK ABOUT

That was a fun story.

I love going to the beach, I bet I could make a giant sandcastle if I had a robot to help me! Let's take a moment to think about that story and share....

“HOW TO CODE A SANDCASTLE”

What was the special language that Pearl had to use to communicate with Pascal?

Why was it important for Pearl to be very specific with her instructions? When do we have to be very specific with our writing?

Where in the story do you see a **sequence**?

What familiar words did you notice in the story that helped us understand the **sequence**?

PAUSE AND
SHARE
(2-5 MINUTES)

Take a moment to think about these questions and then raise your hand when you think you have the answers.

“HOW TO CODE A SANDCASTLE”

What was the special language that Pearl had to use to communicate with Pascal? **CODE**

Why was it important for Pearl to be very specific with her instructions?

When do we have to be very specific with our writing? **In our EXPLANATORY writing.**

Where in the story do you see a **sequence**? **Pearl has to create a sequence in order for Pascal to understand the instructions in the correct order.**

What familiar words did you notice in the story that helped us understand the sequence? **First, then**

Did you notice that Pearl was using CODE to communicate with Pascal. Remember, when you give instructions to a computer you have to be very specific! We saw some silly things happen when Pearl was not specific enough with Pascal!

Did you remember that you are specific when you write to EXPLAIN, like in your explanatory writing last time? We had to create a sequence and be clear and specific.

Pearl had to create a sequence so that Pascal could understand her instructions. She used transitional words like “First” and “Then” just like we do when we write!

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Check off objectives as lesson proceeds.

CO-WRITING IN SMALL GROUPS

Our main activity is going to be co-writing stories together. It will be fun!

CO-WRITING AN EXPLANATORY TEXT

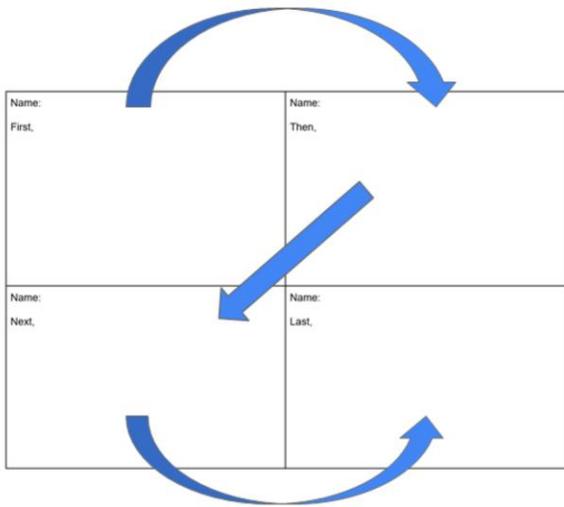
In groups of 4-5, use the speed writing storyboard to write stories collectively! They can be as creative or silly as you want, as long as they **explain something**.

Each person gets their own copy of the [speedwriting storyboard](#). Your teacher will set a timer for 5 minutes. As soon as the timer begins, begin writing your explanatory text but **only fill in the section titled “First.”**

Name: First,	Name: Then,
Name: Next,	Name: Last,

[read slide]

CO-WRITING AN EXPLANATORY TEXT



Once time is up, everyone passes their storyboard to the **person on their right**.

They will **pick up where you left off** and fill in “Next.”

Repeat this process until all sections (First, Next, Then, Last, Finally) are filled in.

Read your stories out loud to one another and enjoy!

[read slide]

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Look how far we’ve come! We’ve already [read slide]

PLANNING IN COCO

Okay, now it's time for us to use CoCo to plan our animations.

COCO, LEVEL 5

1. Can write in ANY kind of story
2. New questions for animating your story
 - a. New motion blocks
 - b. New sound blocks
 - c. New look blocks
 - d. New control blocks
3. Can add more rows!

The screenshot displays the COCO Level 5 interface. On the left, a vertical column titled 'My Ideas' contains four rows, each with a text input area and a yellow question mark icon. Red arrows point from the first and second rows of this column to the right. On the right, a larger table is visible. The top row has a header 'My topic: type here' and a 'What' column. Below this, there are four rows, each corresponding to a row in the 'My Ideas' column. Each row in the 'What' column contains a list of questions, each preceded by a yellow question mark icon. The questions are: 'Do I need to add a start block?', 'Do I need to add a sprite or object?', 'Do I need to add or change a background?', and 'Do I need to make my sprite talk?'. The first two rows have an additional question: 'Do I need to make my sprite think something?'. The third and fourth rows have an additional question: 'Do I need to create a costume?'.

Level 5 of CoCo has even more options for Scratch blocks.

ADDING MORE ROWS TO COCO LEVEL 5

The image shows a screenshot of the 'Step 3: Composing & Coding - Use the Graphic Organizer' interface for 'Story: Level 5'. The interface is divided into three columns: 'My ideas', 'What I Want to Do', and 'Blocks & items I will need'. The 'My ideas' column contains several empty text boxes. The 'What I Want to Do' column contains a list of tasks, each with a radio button and a 'Yes'/'No' selection. The 'Blocks & items I will need' column is currently empty. At the bottom left of the interface, there is a green button labeled 'Add bottom row'. An orange arrow points from this button to a green confirmation dialog box that appears on the right side of the screen. The dialog box contains the text 'Add bottom row, OK?' and two buttons: 'OK' and 'Cancel'. Another orange arrow points from the 'OK' button back to the 'Add bottom row' button. The dialog box also has 'No' and 'Yes' radio buttons at the top and bottom.

One other change in level 5 is that you can add more rows to CoCo. Click on the green button that says “Add Bottom Row” and then click “OK” and a new row will appear.

PLANNING IN COCO

- Every person, pick one of the stories to animate in CoCo. It's okay to pick the same one!
- Add the text to CoCo column 1.
- Fill in columns 2 & 3. There are more choices now. Be creative!

The image shows a screenshot of the CoCo planning tool interface. On the left, there is a column titled "My Ideas" with five rows, each starting with a yellow circle icon and a label: "First", "Then", "Next", "Last", and "Finally". To the right of this column is a larger area titled "What I Want to Do". This area contains a list of prompts for each row, with "No" and "Yes" radio buttons and a small arrow icon to the right of each. The prompts are:

- Do I need to add a start block?
- Do I need to add a character or object?
- Do I need to add or change a background?
- actor talk?
- is a background?
- actor talk?
- actor think something?
- me?
- is a background?
- actor talk?
- actor think something?
- me?
- is a background?
- actor talk?
- actor think something?
- me?
- actor think something?
- me?
- me?
- object move?

[read slide]

LESSON OBJECTIVES: I CAN...

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- ✓ Co-write an explanatory text in a small group
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- Give feedback on my partner’s animation

Check off objectives as lesson proceeds.

PAUSE

10-15 MINUTES

- After filling in CoCo, pause and take 10-15 min to learn about any new blocks you see using the **Scratch block choice board** shared by your teacher.
- Discuss as a small group: do you have any questions?

There are many new Scratch blocks in Level 5 but we don't have time to go over all of them. After you've filled in CoCo level 5, use the Scratch block choice board to learn about any new blocks you see. Discuss any questions you have in small groups.

Link to just the choice board:

<https://www.dropbox.com/scl/fi/qr0z9jwadoijs5usbos0/Scratch-block-choice-board.pptx?dl=0&rlkey=kr6avdpx0mlgmwpyd5ffmmh>

SCRATCH BLOCK CHOICE BOARD

Hide character

hide

Go to block

go to x: -154 y: 12

When this sprite clicked

when this sprite clicked

Change size

change size by 10

Create clone

create clone of myself

Repeat X number of times

repeat 10

Clear graphic effects

clear graphic effects

Change color

change color effect by 25

Repeat until

repeat until

Ask () and wait

ask and wait

When any key pressed

when space key pressed

If...then

if then

Repeat forever

forever

Show character

show

Set size

set size to 100 %

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CODING IN SCRATCH

Now that we've filled in CoCo, we are ready to work in Scratch!

CODE YOUR ANIMATION IN SCRATCH!

- Open a tab with Coco
- Open a tab with Scratch or [Scratch for CS First](#)
- Use column 3 of Coco to find the blocks in Scratch you need for each step.
- After you've found the blocks in Scratch, check off each row's self-monitoring before moving to the next step.

Code your animation in Scratch by following these steps: [read slide]

Step 3: Composing & Coding - Use the Graphic Organizer

Story: Recipe

My Ideas	What I Want to Do	Blocks & Items I will need	Self-monitoring
<p>First First, get all of your materials. You will need lemons, water, and sugar.</p>	<p>Do I need to add a start block? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to add a character or object? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to add or change a background? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character talk? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Scratch Start block, Scratch Character, Scratch Background, Scratch Character Talk</p>	<p><input type="checkbox"/> I used the start block.</p> <p><input type="checkbox"/> I created a character sprite.</p> <p><input type="checkbox"/> I added a background.</p> <p><input type="checkbox"/> I made my character talk.</p>
<p>Then Then, squeeze the lemons into juice.</p>	<p>Do I need to add or change a background? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character talk? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character think something? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to create a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to switch a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Scratch Background, Scratch Character Talk, Scratch Character Think Something, Scratch Create Costume, Scratch Switch Costume</p>	<p><input type="checkbox"/> I made my character talk.</p> <p><input type="checkbox"/> I switched a costume.</p>
<p>Next Next, add water and sugar.</p>	<p>Do I need to add or change a background? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character talk? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character think something? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to create a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to switch a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Scratch Background, Scratch Character Talk, Scratch Character Think Something, Scratch Create Costume, Scratch Switch Costume</p>	<p><input type="checkbox"/> I made my character talk.</p> <p><input type="checkbox"/> I switched a costume.</p>
<p>Last Last, stir the ingredients together.</p>	<p>Do I need to add or change a background? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character talk? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character think something? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to create a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to switch a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Scratch Background, Scratch Character Talk, Scratch Character Think Something, Scratch Create Costume, Scratch Switch Costume</p>	<p><input type="checkbox"/> I made my character talk.</p> <p><input type="checkbox"/> I switched a costume.</p>
<p>Finally Great job!</p>	<p>Do I need to create a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to switch a costume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Do I need to make my character think something? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Scratch Create Costume, Scratch Switch Costume, Scratch Character Think Something</p>	<p><input type="checkbox"/> I created a costume.</p> <p><input type="checkbox"/> I changed a costume.</p> <p><input type="checkbox"/> I made my sprite think something.</p>



**PAUSE HERE AND CODE IN SCRATCH,
CHECK YOUR SELF MONITOR**

Pause and wait while students code in Scratch; advise them to check off their self-monitoring prompts

SHARING YOUR .SB3 FILE FROM CS FIRST TO COCO

1. Create the file in CS First
2. In the Scratch editor, find the word "File" in the top-left corner.
3. Click on "File" menu and you'll see some choices pop down.
 1. Choose "Save to your computer." This will download your Scratch project.
 1. Look in your "Downloads" folder. That's where your saved project might be.
 1. Go to the CoCo website and log in to your account. <https://wego.gmu.edu/scratchgo/login.php>
 1. Click proceed on the correct story in CoCo.

Ready To Work on Your Story?	
first story	(Locked) View 1
second story	Proceed
Story 3	Proceed
 1. Navigate to the section of CoCo where you can upload your project. (only sb3 type and 10Mb max).

Uploading your coding file (only sb3 type and 10Mb max):

Choose File No file chosen Save Uploaded file: [g3](#)
 1. Click "Save".

Model how students can share Scratch creations 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=6jmehmfutgb3jiirjxynvf29&st=cifroqna&dl=0>

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WRAP UP: ANIMATION SHOWCASE

Let's wrap up by sharing our animations!

By receiving feedback on your *Explanatory Writing Scratch project*, you can make it better.

A. Share your screen with a partner.

B. Ask them to name two things they  about your Explanatory Writing project.



The part I liked
best was...



I like the way...
because...



You should
keep
doing...

C. Request feedback on one aspect of your Scratch project you could improve



How
about if
you...



You might
want to
consider...



You might
want to try...

D. Switch Roles

PAUSE HERE (10 MINUTES)

Here are some suggestions for sharing your work and getting feedback. Feedback can help us learn and make our work better in the future. [Read Slide]
Adapted from Getting Unstuck

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