UNIT 4, LESSON 3

DECOMPOSITION

3RD & 4TH GRADE

Award #1837380

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

REMINDER 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"

SUMMARY AND STANDARDS

Summary:

In this lesson, students will use Coco and Scratch to write and animate a summary of a story.

2017 VDOE 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 break down (decompose) a larger problem into smaller sub-problems, independently or collaboratively.

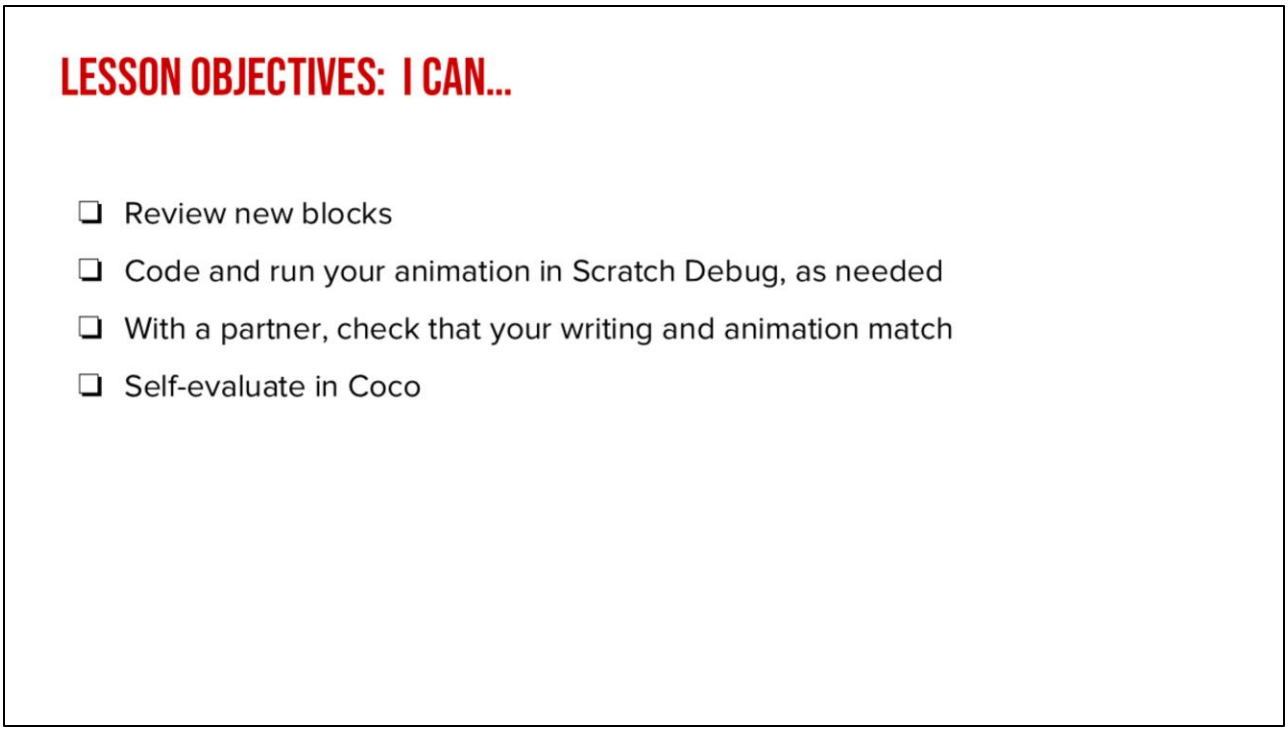
The student will construct programs to accomplish tasks as a means of creative expression using a block or text based programming language, both independently and collaboratively
a. using sequencing;
b. using loops (a wide variety of patterns such as repeating patterns or growing patterns); and
c. identifying events.

MATERIALS AND RESOURCES NEEDED FOR THIS LESSON:

- Chromebook/Laptop
- Internet Access
- Teacher slide deck
- Coco Link
- Scratch for CS First or Scratch online

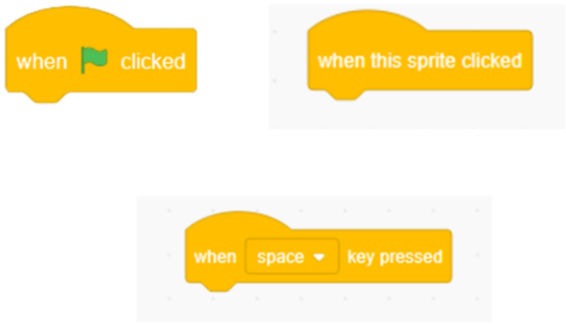
COCO
COMPOSE & CODE
DEPICT-CS

You will need….[read slide]



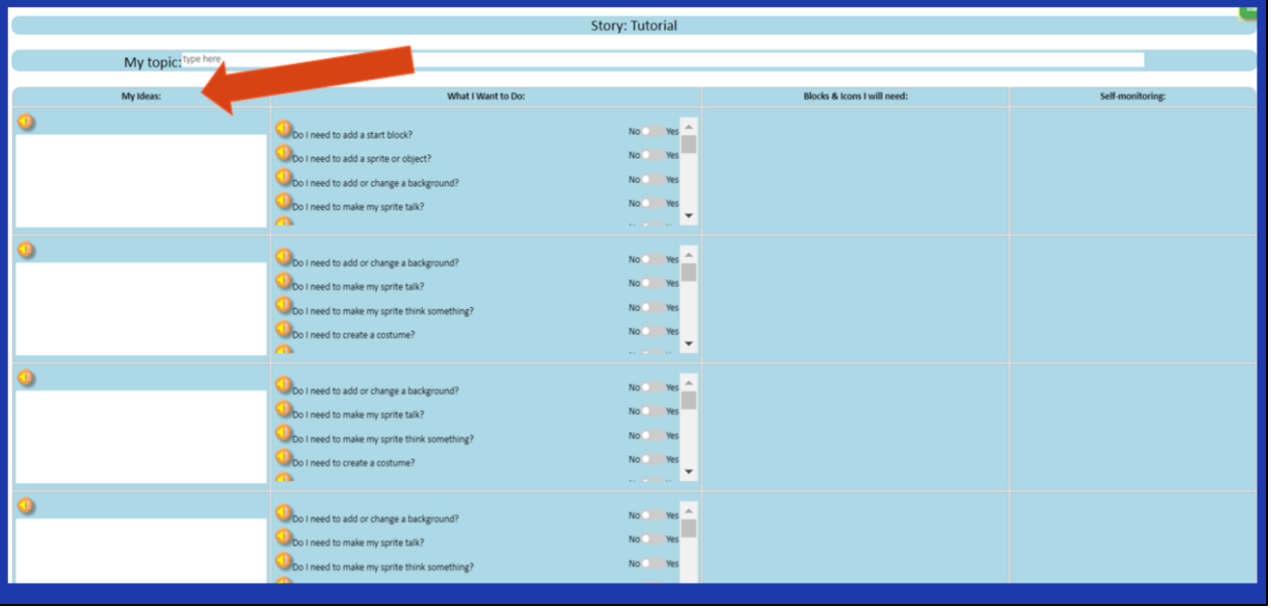
Let’s go over today’s lesson’s objectives: [read slide]

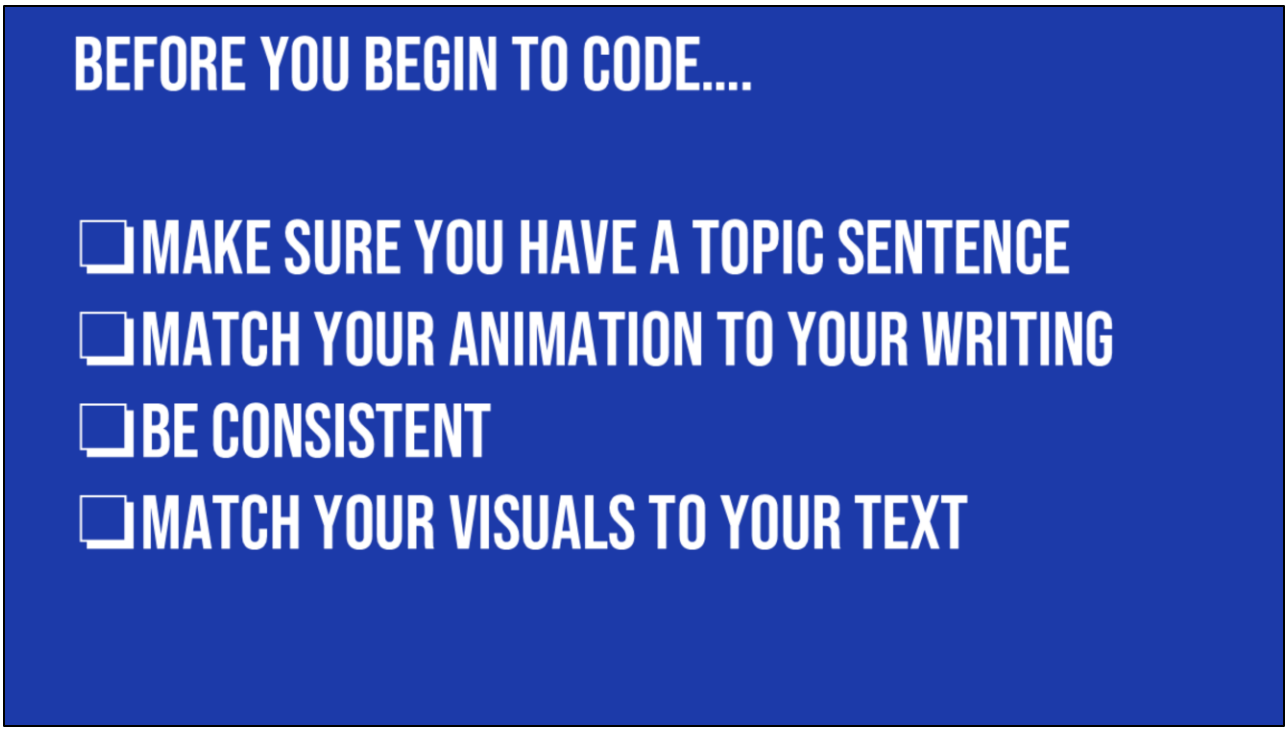
EVENT BLOCKS



Review

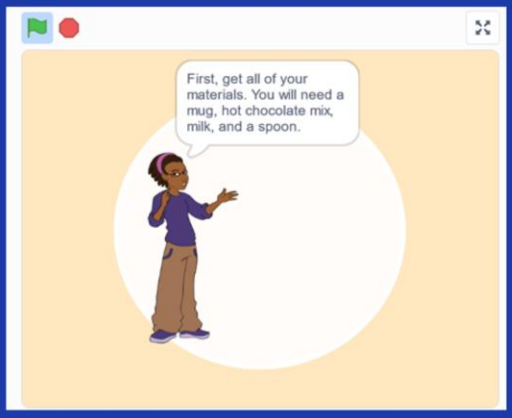
REVIEW: COCO LEVEL 5





In Unit 1, we learned that we want to a) match your animation to your writing, b) be consistent, and c) make sure all the visuals in the frame make sense given what you have written in your text.

GOOD ANIMATIONS CAN BE SIMPLE OR COMPLEX!



https://www.dropbox.com/s/jlist1zaujjpc8e/Screen%20Recording%202023-09-18%20at%209.21.46%20PM.mov?dl=0

https://www.dropbox.com/s/nh93dmdkphd4n0z/Screen%20Recording%202023-09-19%20at%201.45.13%20AM.mov?dl=0

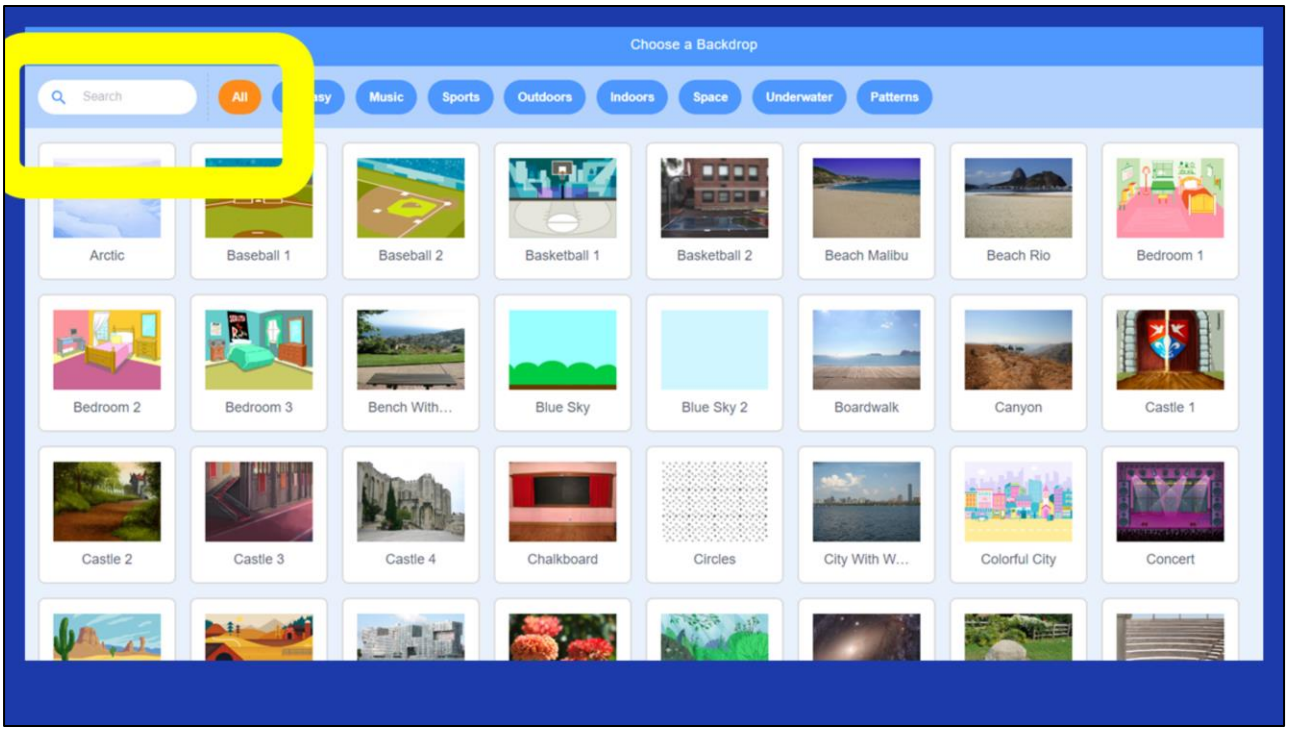
Good animations that follow these guidelines can be as simple as https://www.dropbox.com/s/jlist1zaujjpc8e/Screen%20Recording%202023-09-18%20at%209.21.46%20PM.mov?dl=0 or as complex as https://www.dropbox.com/s/nh93dmdkphd4n0z/Screen%20Recording%202023-09-19%20at%201.45.13%20AM.mov?dl=0 so long as they clearly convey the message to the reader visually and verbally!

For example, if I was writing a story about “Once upon a time there lived a princess….” which one of these sprites would make more sense?

For example, if I was writing a story about “Once upon a time there lived a princess….” which one of these sprites would make more sense? Probably this one. Although, if our princess played baseball later in the story, you could switch it up!

Now, if I was writing a story about a princess who lived in a castle, this backdrop would make more sense.

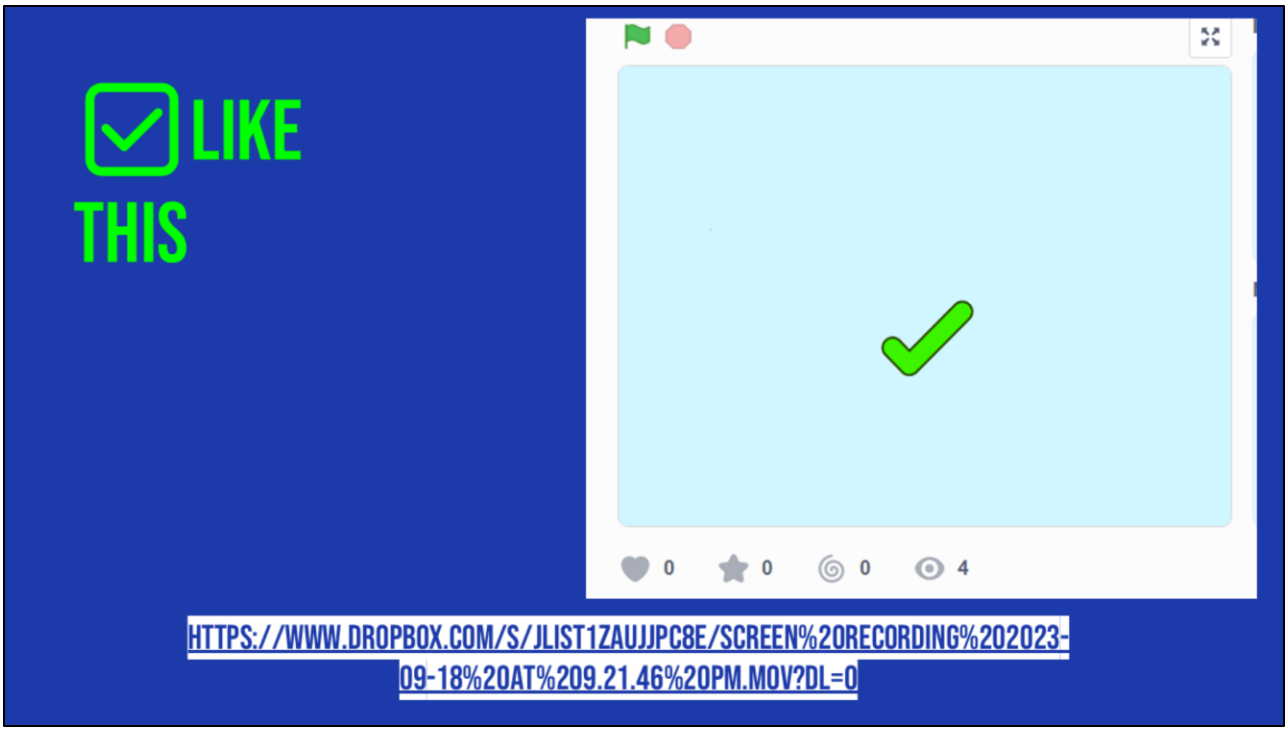
But if I wrote about a princess who played baseball, this one could also work!



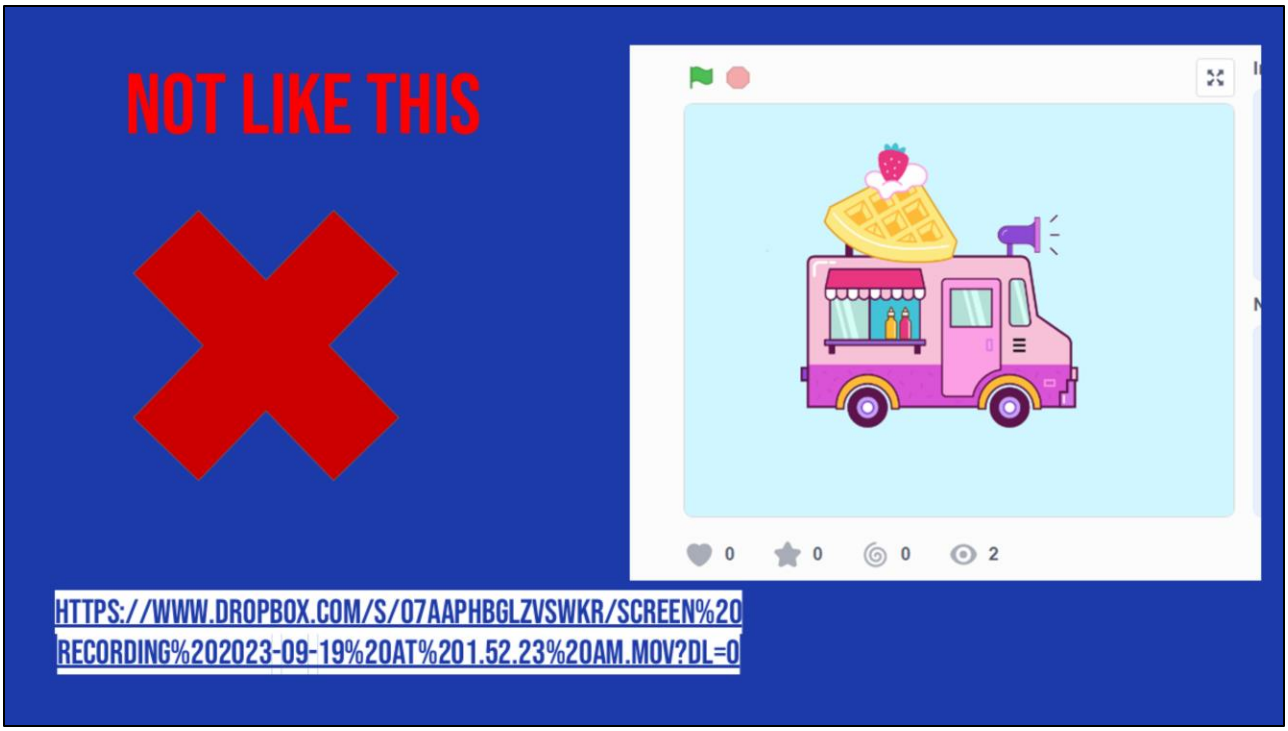
Here's another Scratch tip: when looking for sprites and backdrops, you can enter words into the "search" bar and see if any of the results match what you're looking for.

If you don't find the backdrop you're looking for you could also search the following websites for non-copyrighted images that you can upload to Scratch

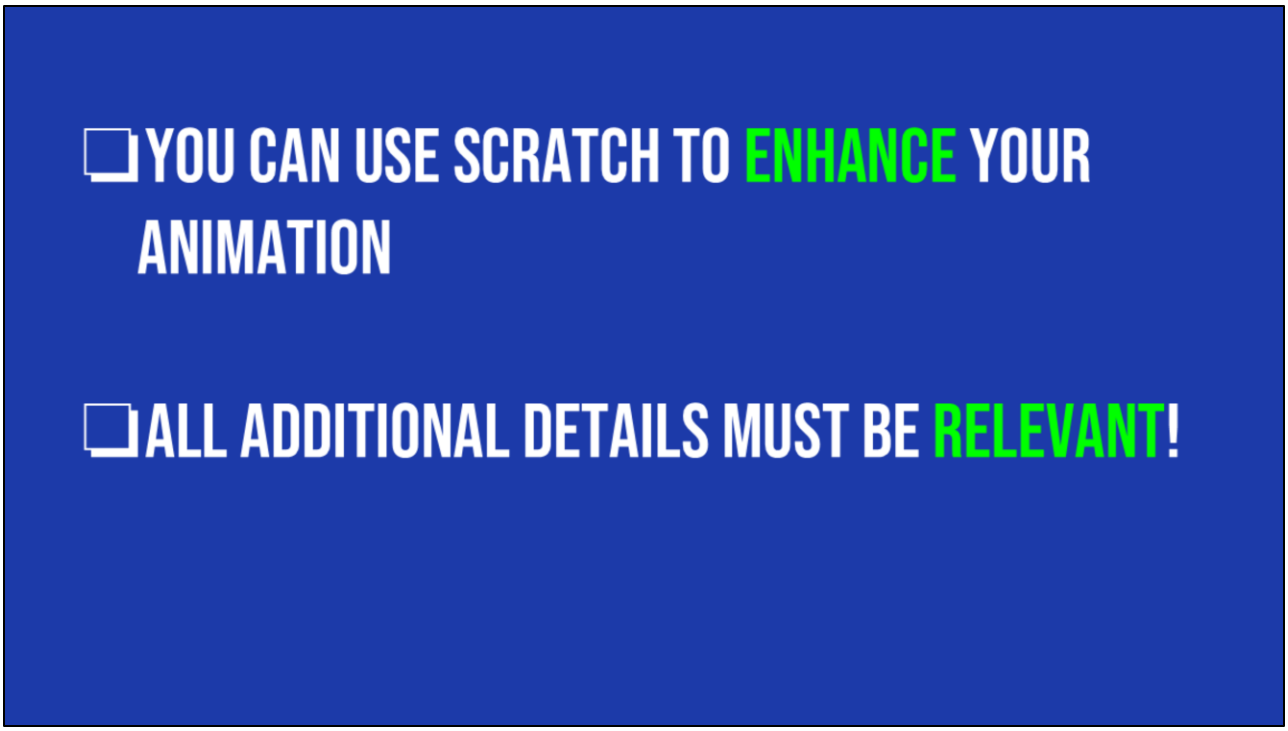
- Dribble: https://dribbble.com/
- Library of Congress free to use and reuse: https://loc.gov/free-to-use
- Flickr: https://flickr.com/
- Unsplash: https://unsplash.com/



Let’s look at this example of a scratch project that is consistent, matches its text, and whose visuals make sense. This is using the “how to make hot chocolate” recipe we’ve seen before.



Now, let’s look at the same video but where the visuals don’t match the text. Hmm, what went wrong here?



Remember how we searched for unique sprites and backdrops? And we also learned how to upload our own sprites and sounds. So there are many ways we can use Scratch to enhance our animations, or make them more exciting! We can add more details to our animations as long as we make sure that the details are relevant.

For example, here's an animation of the hot chocolate recipe that does a really great job enhancing the recipe with additional details to help the viewer imagine a person actually making hot chocolate! Let's take a look and see what they did.

[play/run scratch project]

The first thing we notice is that this computer scientist added images of real-life materials rather than cartoons. This detail enhances the animation but does not change the meaning. They also drew an arrow to show where the mix would go into the cup. FInally, they coded the objects to move and simulate the actual "making" of the drink. But nothing about the meaning changed! And it was not distracting.

Let’s look at another example, where the additional details were not relevant and thus confusing…..

All the written text is the same but the images don't match the text. For example, why is there a dragon in the screen? Why are they at the beach? And why does it show a glass of water instead of hot chocolate? It may seem funny but to a new viewer, it would be very confusing. We dont want that.

NAMING YOUR SCRATCH ANIMATION

When you create your animation in Scratch, please name it using the following formula:

- **Your Name** + **Unit #** + **Topic**
- For example:
    - “Johnny Unit 4 Summary”

INDEPENDENT PRACTICE:

1. Open **Scratch** in one tab, **CoCo** in another
2. Use CoCo to code your Scratch animation
3. Don't forget to **self-monitor and debug** as you go!

PAUSE HERE. (10-25 MINUTES)

ASK YOURSELF AND A PARTNER:

- ❑ Does my topic sentence orient my reader and help set the scene?
- ❑ Does my animation in Scratch convey what I planned? Does it match my writing?
- ❑ Have I enhanced my writing in any way in Scratch?
- ❑ Is there anything distracting or unnecessary in my animation that I should remove?
- ❑ Is there anything in my animation that would make it harder for a viewer to understand my purpose?

IMPORTANT: SHARE 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.

1. Navigate to the section of CoCo where you can upload your project. (only sb3 type and 10Mb max).

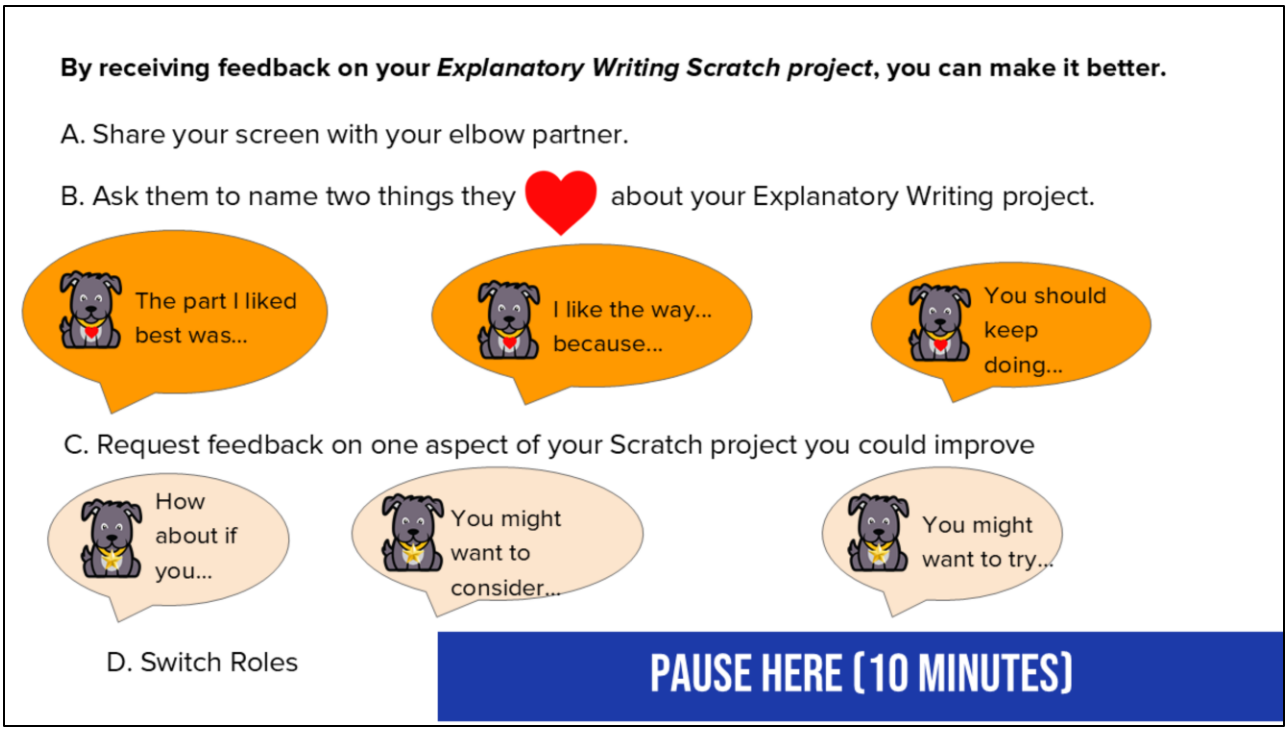
1. Click “Save”.

Model how students can share Scratch creations to their teacher’s studio

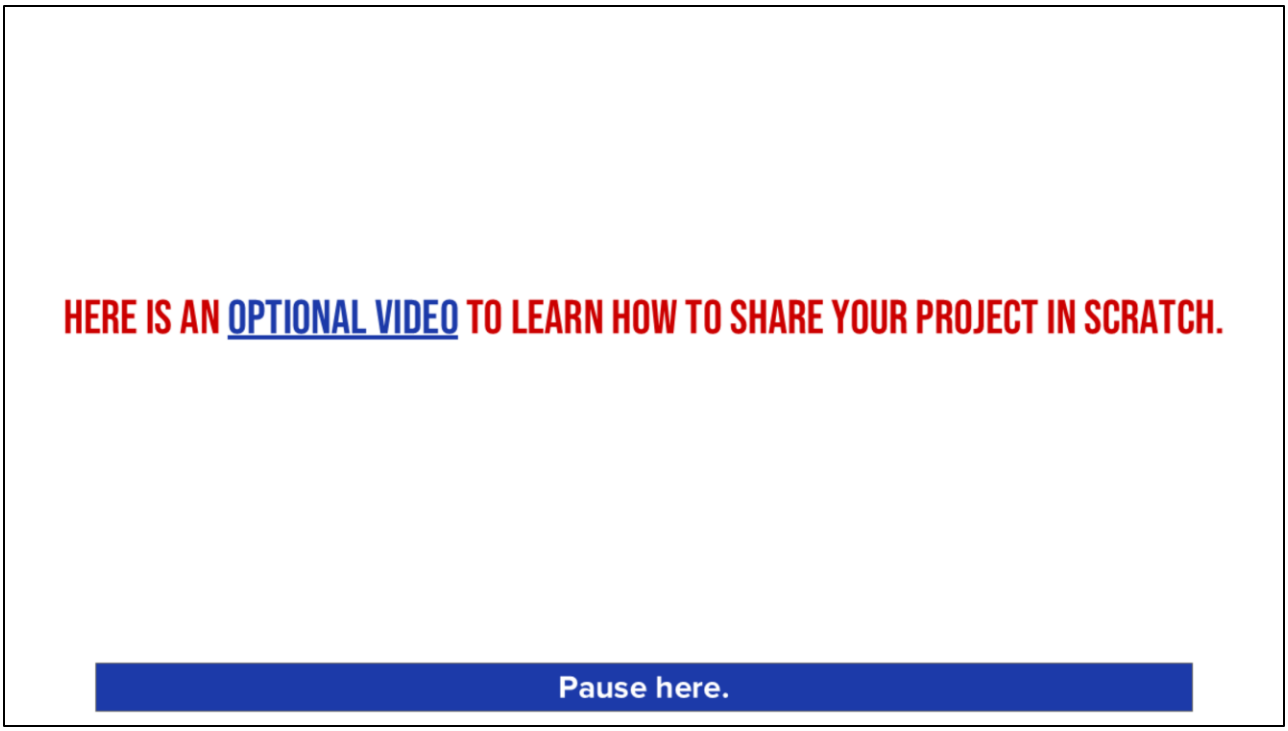
WRAP UP: SCRATCH PUBLISHING PARTY

We have one last task, to share our animation!

A scratch publishing party! It is time to share your animation with others! In a moment, your teacher will let you know how you are going to share your animation. You may just be sharing with a partner or doing a gallery walk.



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



Video modeling how students can share Scratch creations to their teacher's studio

Scratch - Imagine, Program, Share

Thank you for working with me today! Remember, anyone can be a computer scientist. See you soon!

CAREERS IN COMPUTING