

# UNIT 1 LESSON 2

## SCRATCH AND COCO LEVEL 1

5TH & 6TH GRADE



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](mailto:ahutchison1@ua.edu)

## SUMMARY AND STANDARDS

### Summary:

In this lesson, students will learn about CoCo, a graphic organizer to help plan writing and coding and unscramble code for a Scratch project.

### Content Standards:

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

### CS Standards:

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

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

## MATERIALS AND RESOURCES NEEDED FOR THIS LESSON:

- [Teacher slides](#)
- [Student slides](#)
- Chromebook/Laptop
- Internet Access
- Independent practice:  
[Link to "How to Make Hot Chocolate"](#)  
[Scratch project](#)
- Solution video: <https://bit.ly/3Zg1Ksc>
- Optional Video: [Introduction to CoCo](#)

### Reminder:

In this lesson, every student should be **assigned a story in CoCo using Level 1.**

The story should be titled "**Unit 1, How to Make Hot Chocolate**"

Each student should save their work using this naming strategy: "**Student Name + Unit # + Descriptor**", for example, "**Johnny Unit 1, How to Make Hot Chocolate**"



Introduction to CoCo: <https://www.dropbox.com/scl/fi/df06j5aj5jlyrmo3b8u1u/CoCo-Introduction.mp4?rlkey=3x0k4qoyaysorcd1kxbttuzbi&st=gdlo2fcw&dl=0>

## **WARM UP: REVIEW SCRATCH BLOCKS!**

Ok, let's start with a warm-up. We are going to review some of the scratch block we learned about last time.

## REVIEW SCRATCH OBJECTS

**Block(s):** commands in Scratch



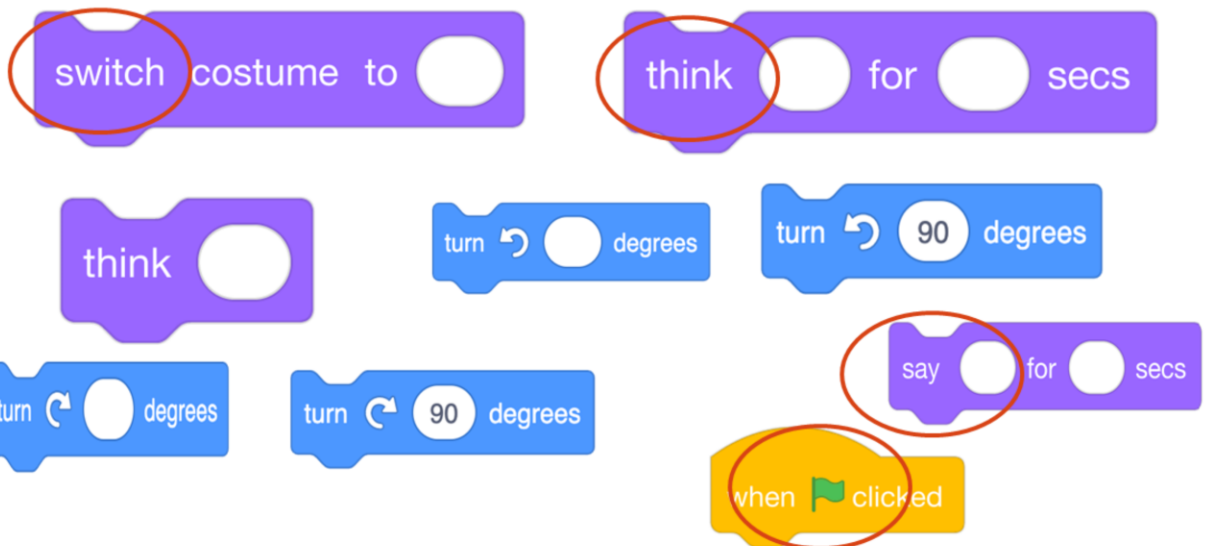
**Sprite:** characters in Scratch



**Backdrop:** background



## REVIEW SCRATCH BLOCKS



Lets look closely at these blocks again and what they say-

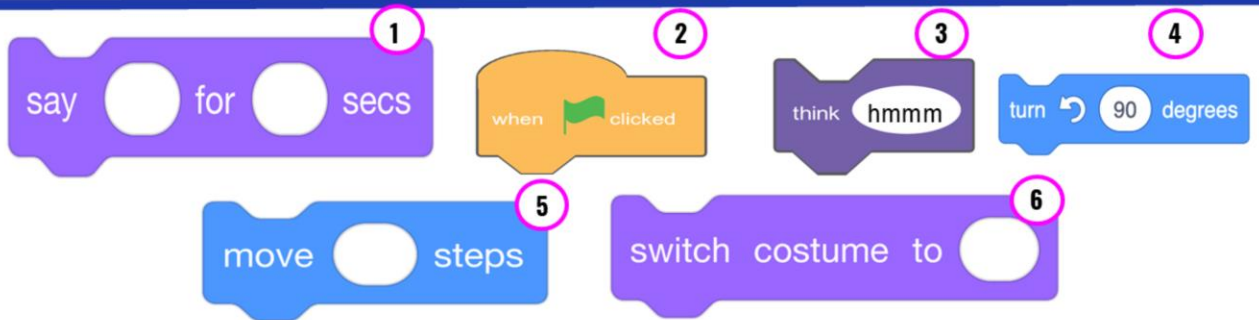
Click "switch,

Click "think,

Click "turn

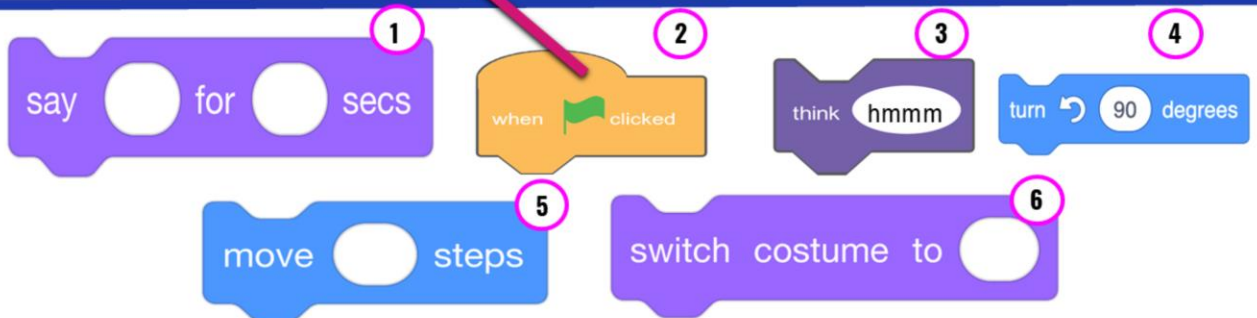
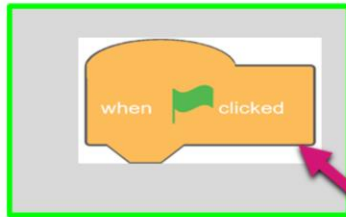
"these are commands".

Which command means “go” or “start”?



Look at the blocks on the bottom of the screen, which block is the command that means GO or start in Scratch?

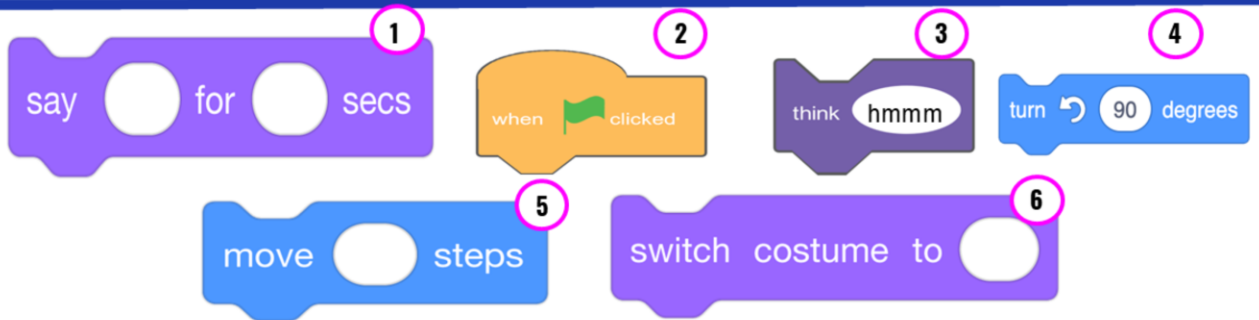
# Which command means “go” or “start”?



Right! The orange block that has a green flag and says “when ‘green flag’ clicked.”  
This will start or run our code!

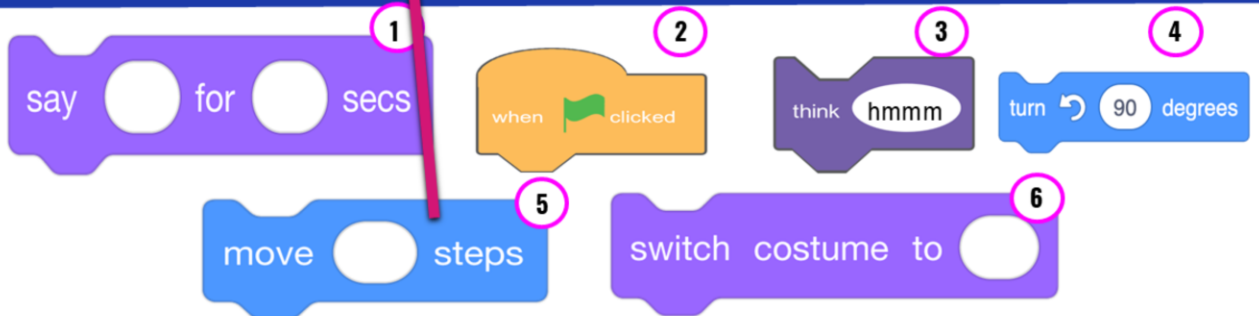
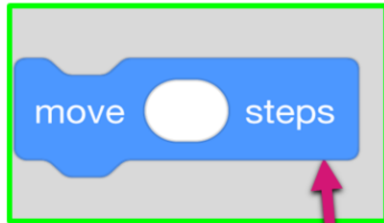


Which command would make our sprite  move?



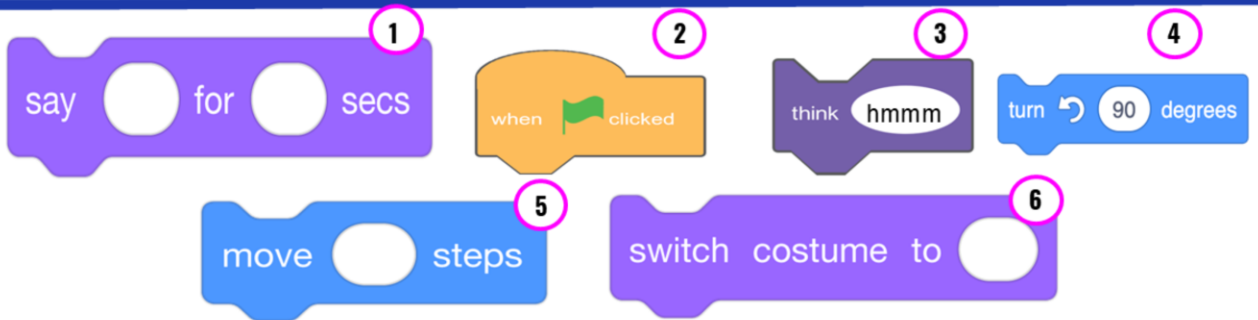
Which command will make our sprite MOVE?

Which command would make our sprite  move?



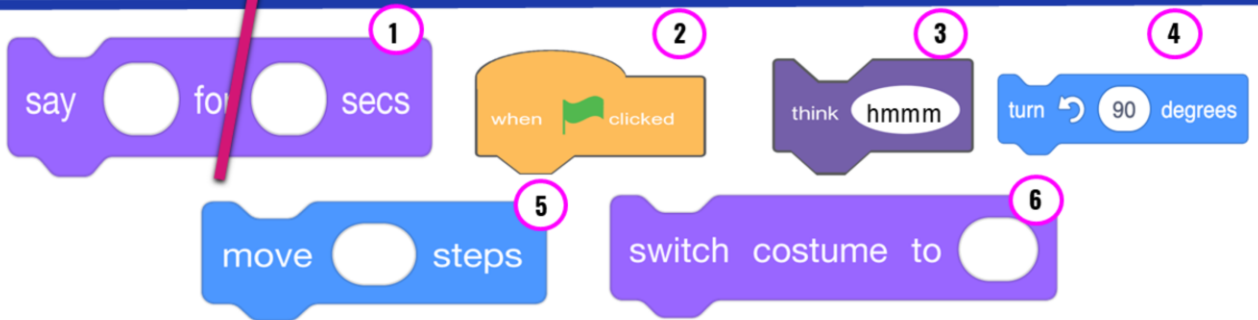
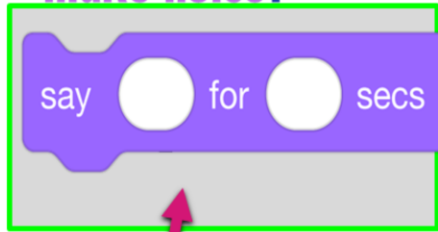
Correct, the blue block that says, “move \_\_\_ Steps” You would enter a number in the blank white oval to tell the sprite how many steps to move!

Which command would make our sprite  talk or make noise?



Which command would make our sprite talk or make noise?

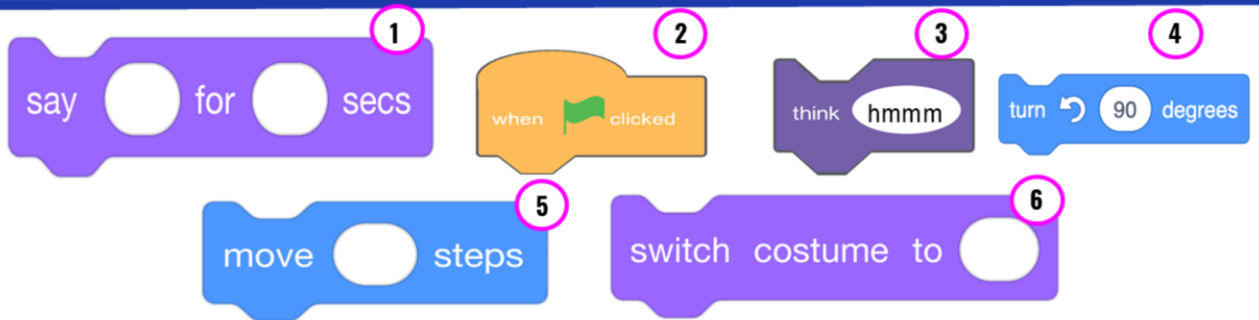
Which command would make our sprite  talk or make noise?



Right! The purple “Say \_\_\_\_ for \_\_\_\_ secs” will tell your sprite to “say something. You would need to type in the text you want your sprite to say in the first space and the amount of “seconds” you want the sprite to speak in the next space.

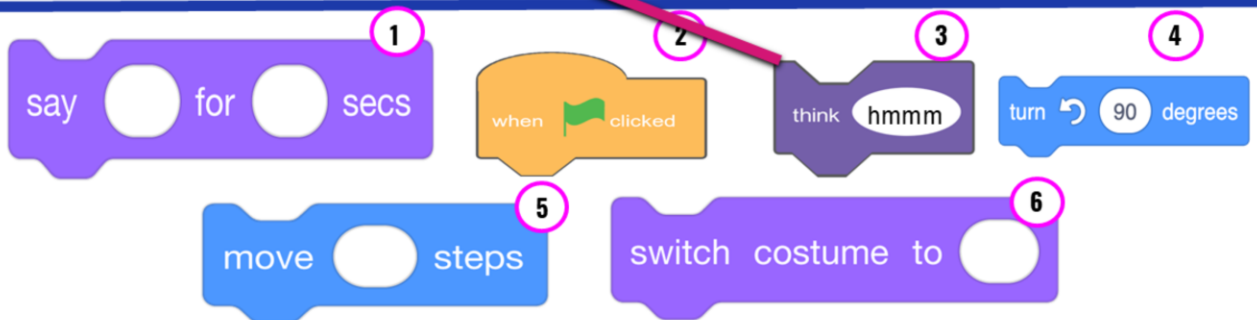
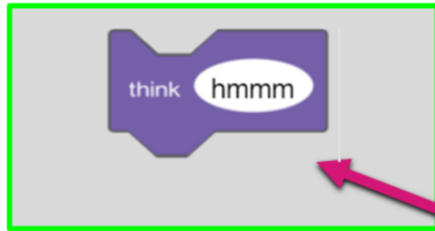
Which command would make our sprite  think?

?



Which command would make our sprite think?

Which command would make our sprite  think?



Right! The purple “Say \_\_\_\_ for \_\_\_\_ secs” will tell your sprite to “say something. You would need to type in the text you want your sprite to say in the first space and the amount of “seconds” you want the sprite to speak in the next space.

## WARM UP: REVIEW CS VOCABULARY

**Code:** The instructions that computer scientists create and use to tell a computer what to do.

**Commands:** tell a person or computer what to do

**Sequence:** an ordered set of instructions

**Algorithm:** A list of steps to finish a task

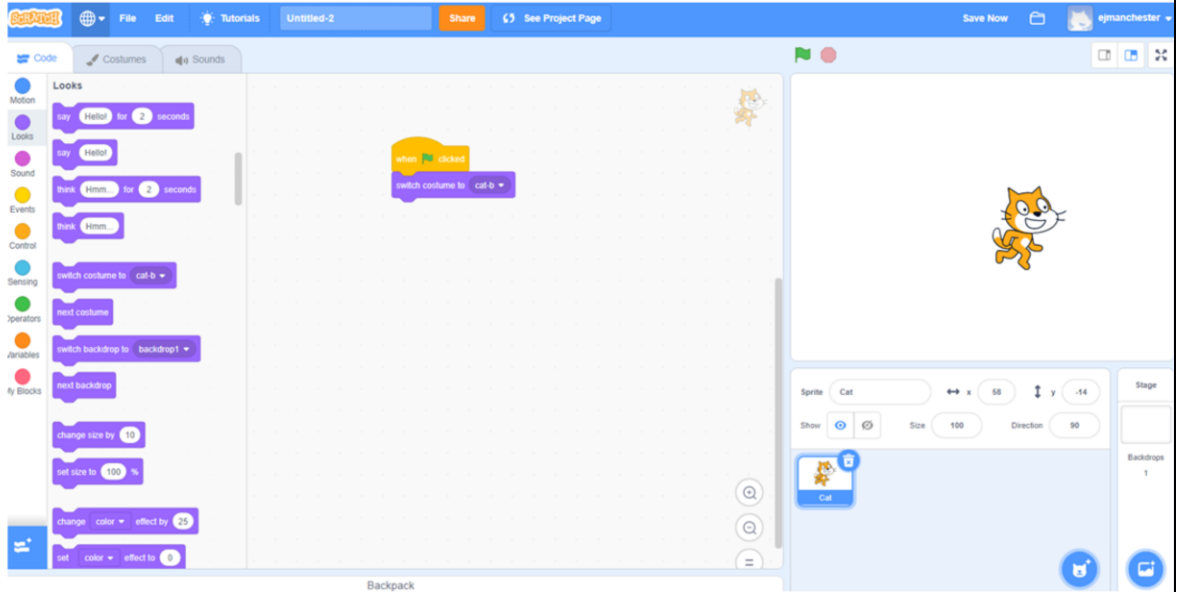
Read slide

## **LESSON OBJECTIVES: I CAN...**

- ☐ Review Scratch and CS Vocabulary
- ☐ Identify the purpose of Coco (planning tool for coding & writing)
- ☐ Locate features within Coco Level 1
- ☐ Identify and operate change costume block
- ☐ Select and drag blocks to unscramble a code in Scratch (plugged)



## SWITCH COSTUME BLOCK (EXPLAINER VIDEO)

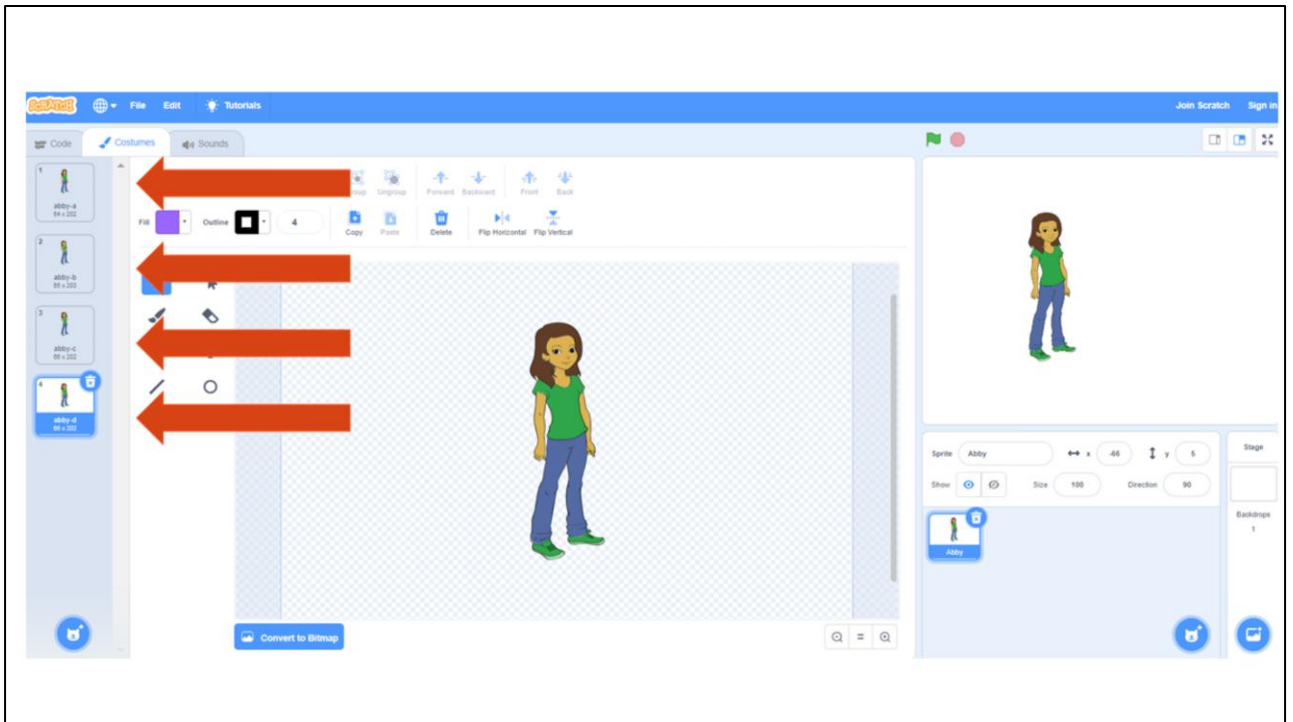


Changes the appearance of your sprite.

Play Video, and explain: It may not be obvious but this cat looks different from the one automatically in scratch. This one looks like it's running. The "change costume" block in Scratch changes the appearance of your sprite. You can use it to change the appearance of your sprite. This block makes things simpler because we want have to use as many sprites in our project.

Video link:

[https://www.dropbox.com/s/jdt70o0l0neyk8c/SwitchCostumeCoCo\\_Nov16.mp4?dl=0](https://www.dropbox.com/s/jdt70o0l0neyk8c/SwitchCostumeCoCo_Nov16.mp4?dl=0)



Lots of sprites in Scratch come pre-loaded with multiple costumes. So changing the costume is as easy and choosing one of these four looks.

## OTHER WAYS OF CHANGING COSTUME

- **Upload:** a file saved on your computer
- **“Surprise”** : the computer chooses a random costume for you
- **Paint:** draw your own sprite!

However, it is also possible to upload your OWN costume by using a photo you already have saved on your computer.

## TRY IT OUT!

- ☐ Navigate to Scratch at [scratch.mit.edu](https://scratch.mit.edu) or CS First
- ☐ Make a sprite
- ☐ Change the sprite's **costume at least twice**

Your turn to try out the change costume block!

# **GUIDED PRACTICE: INTRODUCE COCO (LEVEL 1)**

# GRAPHIC ORGANIZERS FOR WRITING

Sequencing Graphic Organizer

Title: How to build a sandcastle

First	
Then	
Next	
Last	
Finally	

*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.*

*The graphic organizers you have used before helped you brainstorm and eventually write. But now you are going to use a graphic organizer to help take your writing one step further to the final step of the writing process: to present and publish your writing with Scratch! Using Scratch to animate your writing is one way to publish, or share, your work.*






# MEET COCO



**COCO**  
COMPOSE & CODE

DEPICT-CS

1. *Today you are going to learn how to use Coco, a new graphic organizer to organize your thoughts, write instructions, and present your ideas in a coding project/*

My Ideas:	What I Want to Do:	Blocks & Icons I will need:	Self-monitoring:
 First	select level		
 Then	select level		
 Next	select level		
 Last	select level		
 Finally	select level		

*Coco looks a lot like the graphic organizer we used earlier. Before Coco is filled in with your writing and ideas, it will look like this.*



My Ideas:	What I Want to Do:		Blocks & Icons I will need:	Self-monitoring:
<b>1 First</b> First, get all of your materials. You will need a mug, hot chocolate mix, milk, and a spoon.	<b>1</b> Do I need to add a start block? <b>1</b> Do I need to add a character or object? <b>1</b> Do I need to add or change a background? <b>1</b> Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I found the start block. <input type="checkbox"/> I created a character (sprite). <input type="checkbox"/> I added a background. <input type="checkbox"/> I made my character talk.
<b>1 Then</b> Then, pour the milk into the mug and warm it in the microwave.	<b>1</b> Do I need to create a costume? <b>1</b> Do I need to switch a costume? <b>1</b> Do I need to make my character think something?	No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I created a new costume. <input type="checkbox"/> I changed a costume. <input type="checkbox"/> I made my character (sprite) think something.
<b>1 Next</b> Next, pour the hot chocolate mix into the mug.	<b>1</b> Do I need to switch a costume? <b>1</b> Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I switched a costume. <input type="checkbox"/> I made my character (sprite) say something.
<b>1 Last</b> Last, stir the ingredients with a spoon until everything is well-mixed and enjoy your hot chocolate!	<b>1</b> Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I made my character (sprite) say something.
<b>1 Finally</b> Great job!	<b>1</b> Do I need to create a costume? <b>1</b> Do I need to switch a costume? <b>1</b> Do I need to make my character think something?	No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I created a costume. <input type="checkbox"/> I changed a costume. <input type="checkbox"/> I made my sprite think something.

Now let's look at Coco with writing from the paragraph we just read. Do you see that the far left column already has words in it? These are instructions for making hot chocolate.

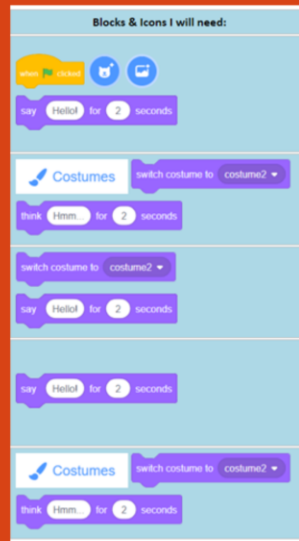
This is what level 1 of Coco looks like. It is completely filled out. As you become more familiar with Coco, you may move onto other levels that will allow you to change more and make more decisions.

My Ideas:	
1 First	First, get all of your materials. You will need a mug, hot chocolate mix, milk, and a spoon.
2 Then	Then, pour the milk into the mug and warm it in the microwave.
3 Next	Next, pour the hot chocolate mix into the mug.
4 Last	Last, stir the ingredients with a spoon until everything is well-mixed and enjoy your hot chocolate!
5 Finally	Great job!

*My ideas is where your writing will go. Let's read the recipe for hot chocolate aloud. [have students take turns or you can read aloud or you can ask students to put on their headsets and listen to CoCo read the text to them.]*

What I Want to Do:	
Do I need to add a start block?	No <input checked="" type="checkbox"/> Yes
Do I need to add a character or object?	No <input checked="" type="checkbox"/> Yes
Do I need to add or change a background?	No <input checked="" type="checkbox"/> Yes
Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes
Do I need to create a costume?	No <input checked="" type="checkbox"/> Yes
Do I need to switch a costume?	No <input checked="" type="checkbox"/> Yes
Do I need to make my character think something?	No <input checked="" type="checkbox"/> Yes
Do I need to switch a costume?	No <input checked="" type="checkbox"/> Yes
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Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes
Do I need to create a costume?	No <input checked="" type="checkbox"/> Yes
Do I need to switch a costume?	No <input checked="" type="checkbox"/> Yes
Do I need to make my character think something?	No <input checked="" type="checkbox"/> Yes

*In the column, "What i want to do" You will be asked a number of questions about what you want to do in scratch based on your writing. Again for level one you will not have to decide these things!*



*In column 3, called blocks and icons I will need, you will see the blocks you need in scratch based on the decisions you made in column 2.*

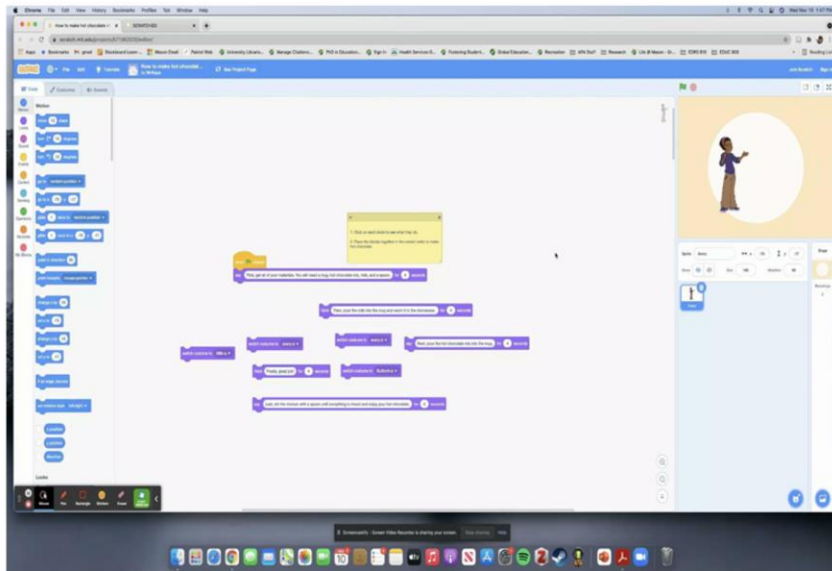
	Self-monitoring:
	<input type="checkbox"/> found the start block. <input type="checkbox"/> created a character (sprite). <input type="checkbox"/> added a background. <input type="checkbox"/> made my character talk.
	<input type="checkbox"/> created a new costume. <input type="checkbox"/> changed a costume. <input type="checkbox"/> made my character (sprite) think something.
	<input type="checkbox"/> switched a costume. <input type="checkbox"/> made my character (sprite) say something.
	<input type="checkbox"/> made my character (sprite) say something.
	<input type="checkbox"/> created a costume. <input type="checkbox"/> changed a costume. <input type="checkbox"/> made my sprite think something.

*In the final column called self-monitoring, you will see a list of statements that you need to check before you move on. These statements will help you check and make sure that you have found everything you need to code in scratch.*

My Ideas:	What I Want to Do:		Blocks & Icons I will need:	Self-monitoring:
<b>1 First</b> First, get all of your materials. You will need a mug, hot chocolate mix, milk, and a spoon.	<b>1</b> Do I need to add a start block? <b>1</b> Do I need to add a character or object? <b>1</b> Do I need to add or change a background? <b>1</b> Do I need to make my character talk?	No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> I found the start block. <input type="checkbox"/> I created a character (sprite). <input type="checkbox"/> I added a background. <input type="checkbox"/> I made my character talk.
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*For now, you won't have to plan and write a new set of instructions--we're going to use what is already here in CoCo to show us how we would publish our writing as an animation. We're all going to code a Scratch program about "How to Make Hot Chocolate."*

## VIDEO OF HOW TO TOGGLE AND UNSCRAMBLE



Video link: <https://www.dropbox.com/scl/fi/p8njhio4zgvgzp0u6sud9/How-to-Toggle.webm?rlkey=pwb05izqe0ms9r52fb7ugu11m&st=aqmd6740&dl=0>

# INDEPENDENT PRACTICE




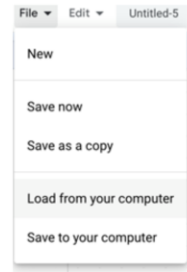
## STUDENT ACTIVITY: DEBUG SOME SCRAMBLED CODE

- First, students should open the student slide deck PowerPoint (see website). Go to the Lesson 2 slides.
- When you open Scratch, your code will **not be in the correct sequence, look carefully!**
- You will need to fix your code by putting it in the same order as the instructions in Column 1 of CoCo.
- Use CoCo and your transition words to help you!

Using blocks recommended in Coco level 1 to unscramble the code in Scratch

## INDEPENDENT PRACTICE:

1. First, open a new window in your browser.
  2. Next, download the .sb3 file from the following [Link: https://bit.ly/3rkIjBQ](https://bit.ly/3rkIjBQ)
  3. Then, go to the following CS First Scratch [Link: https://bit.ly/3PexYzB](https://bit.ly/3PexYzB) and open the [Coco link](#) that was shared by your teacher and click on Level 1.
  4. Next, Click Sign in on CS First and Choose "I'm a student" 
  5. Then, Click "File" menu and Choose "Load from your computer"
  6. Next, use the story and code you see in each row of CoCo Level 1 to put your jumbled code into the correct sequence in CS First. NOTE: if you do not see any code in CS First, be sure to scroll up and down.
1. Last, play your animation in Scratch by pressing the green flag.
  2. Finally, correct any mistakes you made by fixing your code!




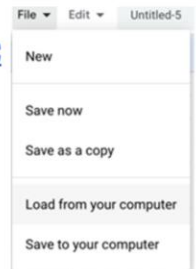
**PAUSE HERE. (10-15 MINUTES)**

Ok, here is the sequence of steps to complete your independent practice. Your teacher is going to share two links with you that you will need to open on your computer.

.sb3 file dropbox link: <https://www.dropbox.com/scl/fi/n53q89bctwg5bj1cqmap5/How-to-make-hot-chocolate-V2-remix.sb3?rlkey=8pxkfbyp3797w2uztxmx86nuf&dl=0>

# SOLUTION TO YOUR SCRAMBLED CODE

1. First, open a new window in your browser.
2. Next, download the .sb3 file from the following [Link: https://bit.ly/3Zg1Ksc](https://bit.ly/3Zg1Ksc)
3. Then, go to the following CS First Scratch [Link: https://bit.ly/3PexYzB](https://bit.ly/3PexYzB)
4. Next, Click Sign in and Choose "I'm a student" 
5. Then, Click "File" menu and Choose "Load from your computer"
6. Last, play your animation by pressing the green flag!



How did you do? Were you able to make your animation work? Did you run into any problems?

## OPTIONAL

If you finish early, try changing the costumes in a different way!

# WRAP UP: PARTNER UP, REVIEW CODE, AND FIX ANY ERRORS

Students should work with a partner to check their code for errors and fix were necessary. Bonus challenge: Can students change a costume again?