LESSON 3

PLANNING & WRITING

GRADES 5 & 6

CS FOR ALL

NSF
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 achutchison1@ua.edu

Good job using CoCo last time! Today, we are each going to write our own recipes and begin planning an animation along with it.

SUMMARY AND STANDARDS

Summary:

Students will be introduced to explanatory writing. They will use CoCo to write an original recipe and begin planning how to animate their writing using Scratch.

ELA Standards:

The student will:
- Use organizational strategies to structure writing according to type
- 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.

Optional: Introduce lesson, learning goals, and resources (Slides # 2-4)

MATERIALS AND RESOURCES NEEDED FOR THIS LESSON:

- Chromebook/Laptop
- Internet Access
- Scratch for CS First or Scratch Offline Editor (app)
- Teacher slides
- CoCo Link
- Optional lemonade/Koolaid recipe graphic organizer
- Hard copies of the Scratch storyboard/planning document

Reminder:
In this lesson, every student should be **assigned a story in CoCo** using **Level 4.**

The story should be titled "**Lesson 3 Story.**"

Each student should save their work using this naming strategy: "**Student Name + Lesson # + Descriptor**", for example, "**Johnny Lesson 3 Story**"

COCO
COMPOSE & CODE
DEPICT-CS
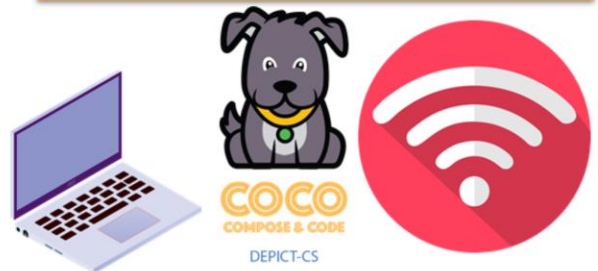
Optional: Introduce lesson, learning goals, and resources (Slides # 2-4)

Does everyone have what they need?

LESSON OBJECTIVES: I CAN...

- ❏ Review familiar Scratch blocks and Computer Science (CS) vocabulary
- ❏ Identify the purpose and features of explanatory writing
- ❏ Write a recipe using First, Then, Next, Last, Finally transition words
- ❏ Add my writing to CoCo
- ❏ Begin planning my animation

Optional: Introduce lesson, learning goals, and resources (Slides # 2-4)

VOCABULARY
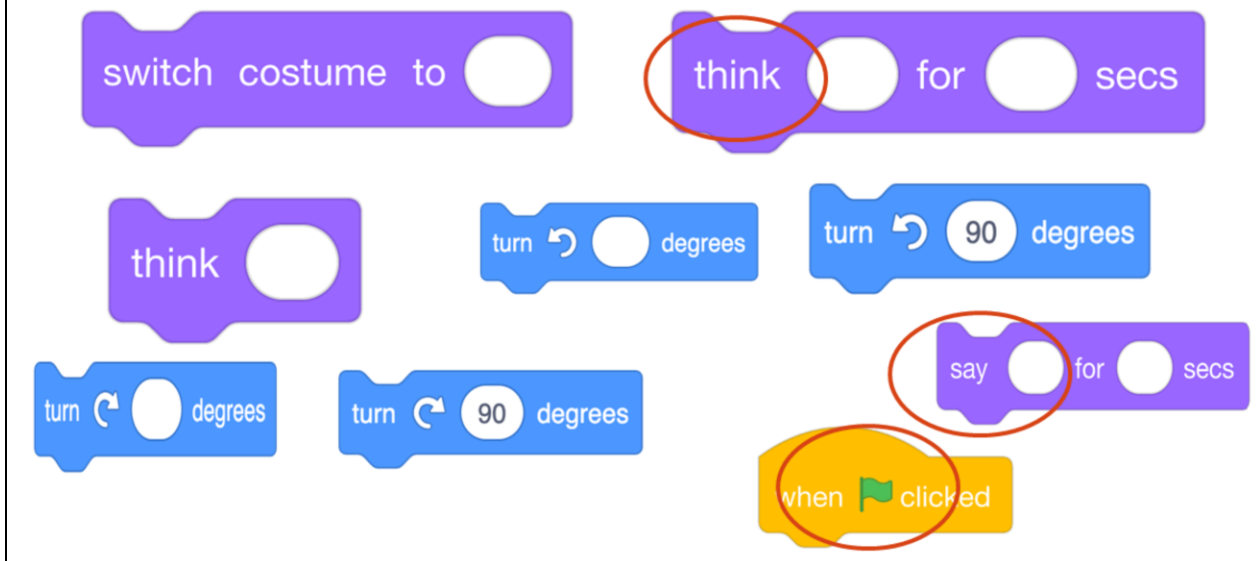
★ Explanatory writing

And we've got one more new vocab word! [read slide]

WARM UP: REVIEW SCRATCH BLOCKS & VOCAB

Let's warm-up with a scavenger hunt in Scratch to remember some things in scratch. You will use your student slide deck to work on this while you are looking for things in scratch.

REVIEW SCRATCH BLOCKS

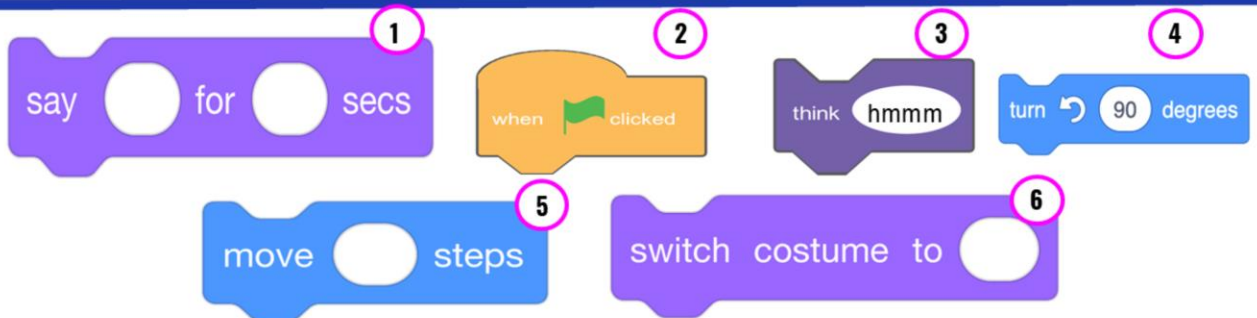
Lets look closely at these blocks again and what they say-
Click "switch,
Click "think,
Click "turn
"these are commands".

Which command means "go" or "start"?

?

1. say ( ) for ( ) secs
2. when [flag] clicked
3. think (hmmm)
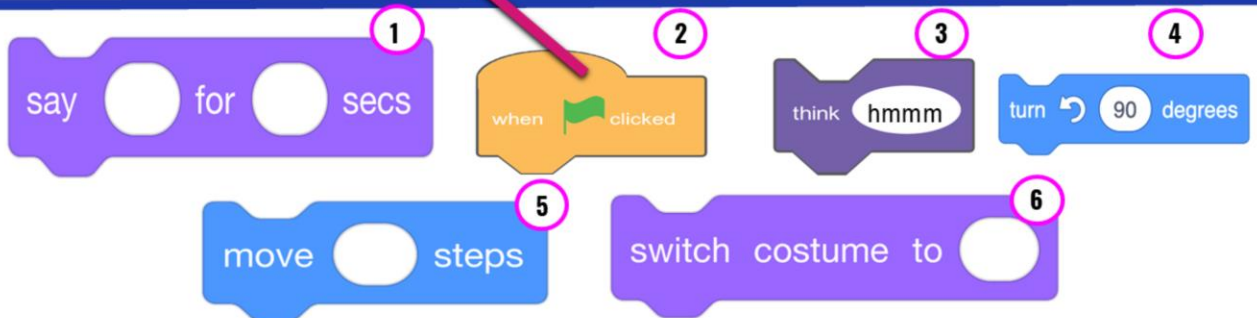4. turn ↺ 90 degrees
5. move ( ) steps
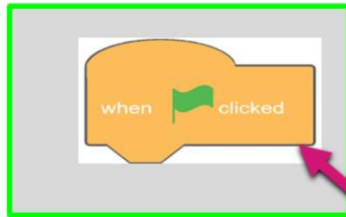6. switch costume to ( )

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

(Read out blocks?)

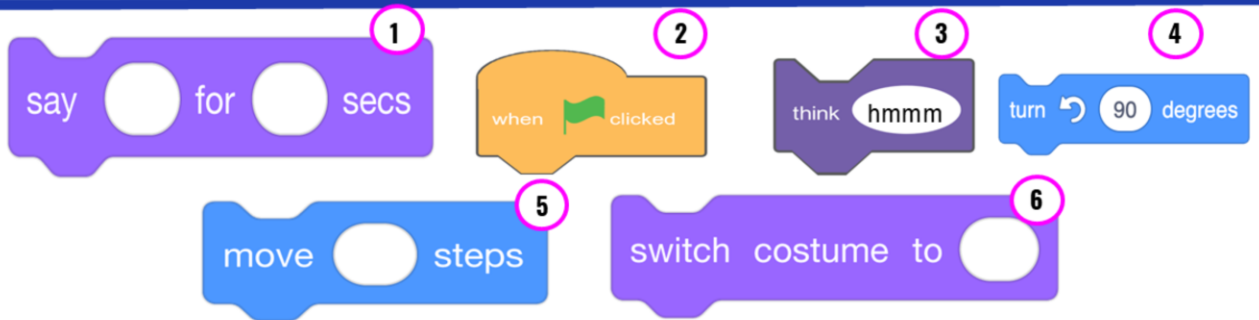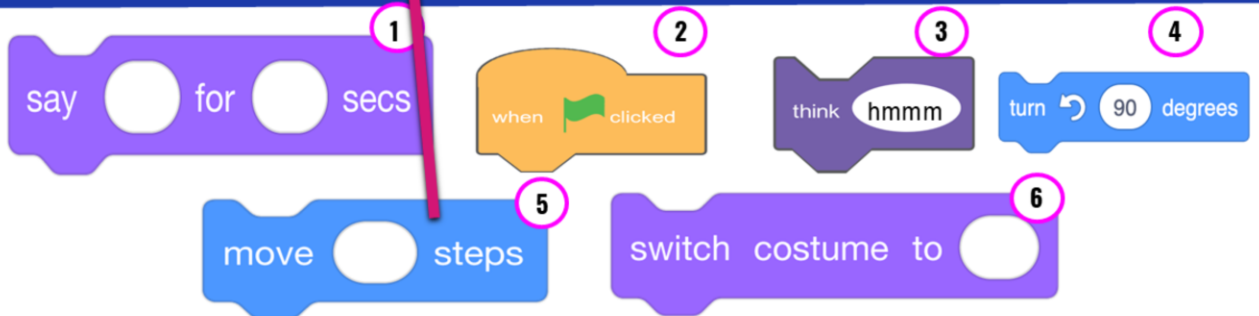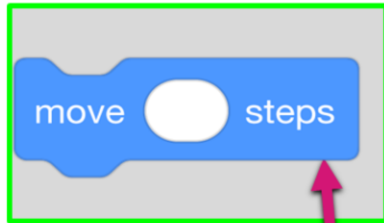# Which command means "go" or "start"?

when [🚩] clicked

1 say ( ) for ( ) secs

2 when [🚩] clicked

3 think (hmmm)

4 turn ↺ (90) degrees

5 move ( ) steps

6 switch costume to ( )

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?

?

1	2	3	4
say ( ) for ( ) secs	when 🚩 clicked	think (hmmm)	turn ↺ (90) degrees

5	6
move ( ) steps	switch costume to ( )

Which command will make our sprite MOVE?

Which command would make our sprite 🐱 move?

move ⬭ steps

1 say ⬭ for ⬭ secs	**2** when 🚩 clicked	**3** think hmmm	**4** turn ↺ 90 degrees
5 move ⬭ steps		**6** switch costume to ⬭	

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!
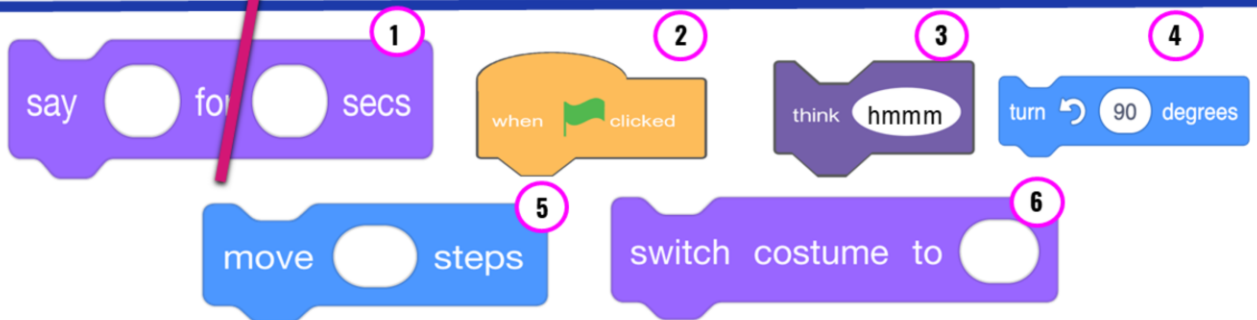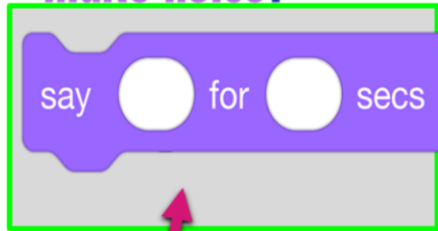
Which command would make our sprite 🐱 talk or make noise?
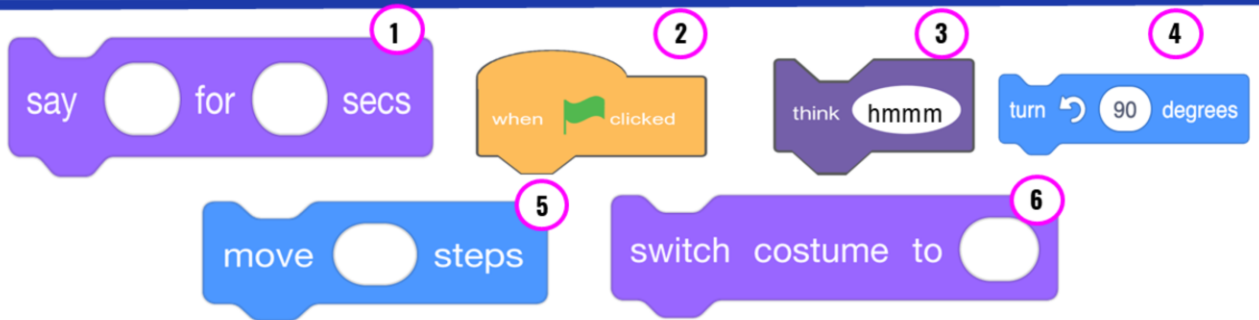
?

1 say ◯ for ◯ secs

2 when 🚩 clicked

3 think hmmm

4 turn ↺ 90 degrees

5 move ◯ steps

6 switch costume to ◯

Which command would make our sprite talk or make noise?

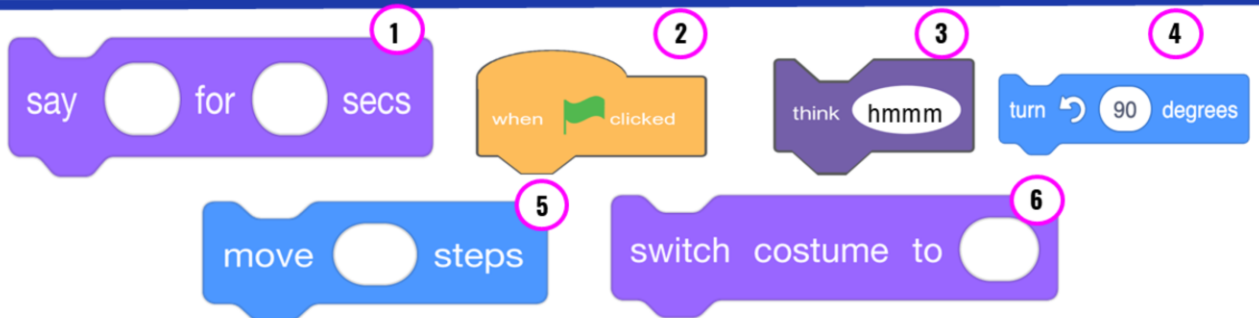# Which command would make our sprite 🐱 talk or make noise?

say ( ) for ( ) secs

1. say ( ) for ( ) secs
2. when 🚩 clicked
3. think (hmmm)
4. turn ↺ 90 degrees
5. move ( ) steps
6. switch costume to ( )

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.
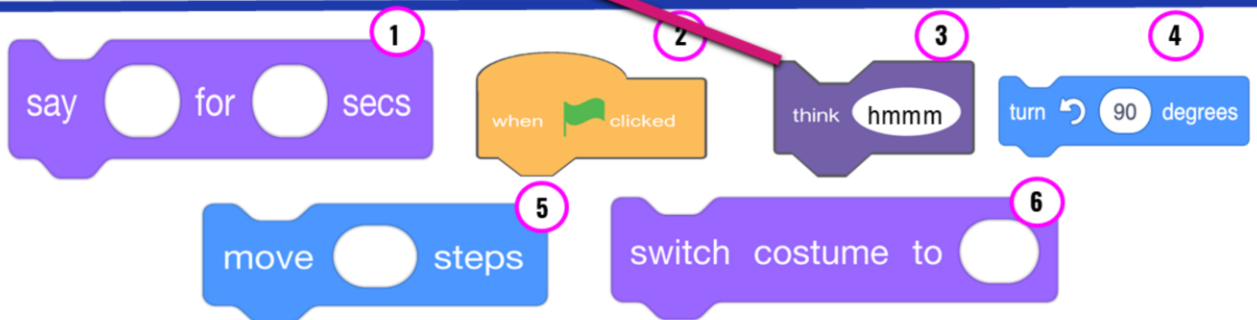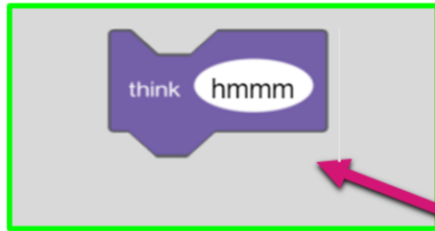
Which command would make our sprite 🐱 think?

?

1 say ◯ for ◯ secs

2 when 🚩 clicked

3 think hmmm

4 turn ↩ 90 degrees

5 move ◯ steps

6 switch costume to ◯

Which command would make our sprite talk or make noise?

Which command would make our sprite 🐱 think?

think hmmm

1. say ⬤ for ⬤ secs
2. when 🚩 clicked
3. think hmmm
4. turn ↺ 90 degrees
5. move ⬤ steps
6. switch costume to ⬤

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.

Let's review: match each vocab word to its definition

Code

Algorithm

Commands

Decomposition

Abstraction

Tell a person *or* a computer what to do.

identifying what is important and leaving out information we do not need.

breaking a large problem into smaller parts

Computer scientists write these instructions to tell a *computer* what to do.

A list of steps to finish a task

Let's review vocab from last lesson.

Let's review: match each vocab word to its definition

Code

Algorithm

Commands

Decomposition

Abstraction

Tell a person *or* a computer what to do.

identifying what is important and leaving out information we do not need.

breaking a large problem into smaller parts

Computer scientists write these instructions to tell a *computer* what to do.

A list of steps to finish a task

Here are the answers!

LESSON OBJECTIVES: I CAN...

✓ Review familiar Scratch blocks and Computer Science (CS) vocabulary

❑ Identify the purpose and features of explanatory writing

❑ Write a recipe using First, Then, Next, Last, Finally transition words

❑ Add my writing to CoCo

❑ Begin planning my animation

Check off objectives as lesson proceeds.

COCO HELPS US PLAN OUR WRITING & OUR CODE

COCO
COMPOSE & CODE

DEPICT-CS

Today you are going to be using CoCo again to help plan your writing and your code.

WHAT IS EXPLANATORY WRITING?

Explanatory writing:

- **Explains** something to someone or helps them understand how to do something. So it is important to provide many details!
- Is written in a specific order or **sequence**
  - A sequence is a set of things that follow each other in a particular order, where order matters!
- Often uses sequencing words such as **first, next, then** and **last** to communicate the correct order of steps, also known as their sequence

Specifically, we are all going to write a piece of explanatory writing. Explanatory writing….[read slide]

FIRST
THEN
NEXT
LAST
FINALLY

It uses transition words that help the reader understand the sequence of commands. Where have you seen these before? [pause] That's right! In CoCO!

CAN YOU THINK OF OTHER EXAMPLES OF EXPLANATORY WRITING?

We may wish to write about how to....

➢ Get somewhere (directions)
- ○ To the cafeteria
- ○ The park in your neighborhood

➢ Do something (instructions)
- ○ Build a fort in your living room
- ○ Do a dance
- ○ Shoot a basketball or kick a soccer ball
- ○ Create a craft

➢ Explain something
- ○ How your family celebrates the holidays
- ○ About someone important to you or someone famous
- ○ How something happens, such as photosynthesis or the water cycle

There are lots of times when you may wish to explain something to someone! [read slide]

HOW TO WRITE AN EXPLANATORY TEXT

1. **Brainstorm:** What do you want to share?
2. **Plan:** What does your reader need to know? How should you organize your information?
   a. Graphic Organizers can help (Coco)
3. **Write!**
   a. Be clear and specific
   b. Use transition words
4. **Debug and Edit**
   a. Look for mistakes or things that don't make sense.
   b. Fix your mistakes

COCO
COMPOSE & CODE
DEPICT-CS

And there are series of steps we want to follow when writing [read slide]

COCO IS A GRAPHIC ORGANIZER

CoCo helps us organize our writing and plan out our animation in Scratch.

My Ideas:

- First
- Then
- Next
- Last
- Finally

What I Want to Do:

- Do I need to add a start block? No / Yes
- Do I need to add a character or object? No / Yes
- Do I need to add or change a background? No / Yes
- Do I need to make my character talk? No / Yes

- Do I need to add or change a background? No / Yes
- Do I need to make my character talk? No / Yes
- Do I need to make my character think something? No / Yes
- Do I need to create a costume? No / Yes

- Do I need to add or change a background? No / Yes
- Do I need to make my character talk? No / Yes
- Do I need to make my character think something? No / Yes
- Do I need to create a costume? No / Yes

- Do I need to add or change a background? No / Yes
- Do I need to make my character talk? No / Yes
- Do I need to make my character think something? No / Yes
- Do I need to create a costume? No / Yes

- Do I need to make my character think something? No / Yes
- Do I need to create a costume? No / Yes
- Do I need to switch a costume? No / Yes
- Do I need my character or object move? No / Yes

One great graphic organizer that helps us with this process is Coco. Coco is also helpful because it not only helps us plan our writing but also how we are going to share our writing virtually in a Scratch animation!

ALGORITHMS AND EXPLANATORY WRITING

- Use the correct sequence
- Be clear and precise

FIRST

NEXT

when ⚑ clicked

move 1 steps

move 1 steps

turn ↻ 90 degrees

move 1 steps

move 1 steps
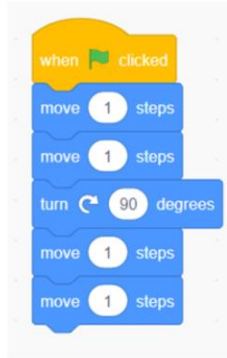
Just like an algorithm, explanatory writing **explains** the steps or instructions for doing something.

Explanatory writing is also written in a specific order or sequence, just like an algorithm.

Remember: Algorithms and explanatory writing are very similar. They both explain a sequence of steps or events. And they both need to be clear so that others, people or computers, can follow those steps.

LESSON OBJECTIVES: I CAN...

✓ Review familiar Scratch blocks and Computer Science (CS) vocabulary

✓ Identify the purpose, features, and process of explanatory writing

❏ Write a recipe using First, Then, Next, Last, Finally transition words

❏ Add my writing to CoCo

❏ Begin planning my animation in CoCo

Check off objectives as lesson proceeds.

INDEPENDENT PRACTICE

INDEPENDENT PRACTICE

Write a recipe for making a drink either by using the template provided by your teacher or directly in CoCo.

You may choose to write about lemonade, Koolaid, or another drink of your choice!

https://www.dropbox.com/scl/fi/gr6kvzfrccgeu0zecfyu k/Lemonade-or-Koolaid-recipe.docx?rlkey=5sawf7zzyvoovr7p75qi79ka4&st=g1 havao1&dl=0

In a moment, you will navigate to your student slide deck. In the deck is an outline for you. You will choose whether you want to write instructions for making lemonade or tea. Then you will type you instructions in. There is also a link to this document in the handouts, for the option to hand write your instructions. Your teacher will let you know what to do next.

Recipes are a type of **explanatory writing.**

Pay close attention to your transition words:

- First
- Then
- Next
- Last
- Finally

Make sure your directions are in the correct **sequence.**

1. Remind students of explanatory writing and the sequence of transition words we have used

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Check off objectives as lesson proceeds.

ADD YOUR WRITING TO COCO

Steps:

1. Log In to CoCo
2. Select "level 4" from the drop-down menu
3. Type your recipe into the text boxes provided under First, Then, Next, Last
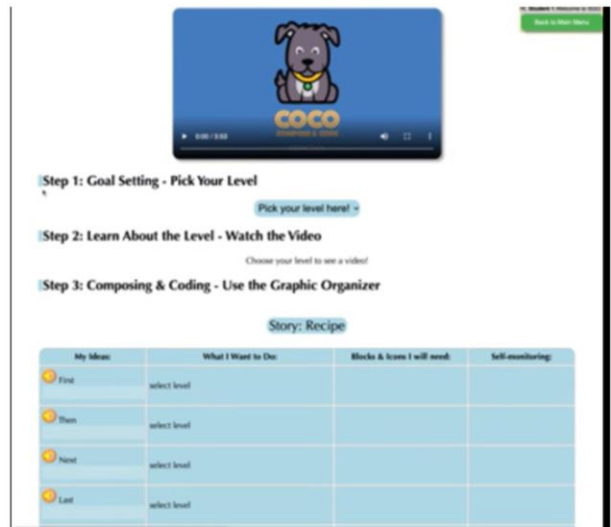
Now you will log into CoCo and select Level 4 from the drop-down menu. Then, type your recipe into the text boxes.

CoCo link: https://wego.gmu.edu/scratchgo/login.php

OPTIONAL VIDEOS

➤ Overview of CoCo level 4:
  CoCo Level 4

➤ Adding our text to CoCo:
  Adding our text to CoCo

Optional support videos
- Overview of CoCo level 4:
  https://www.dropbox.com/scl/fi/3zvitzidi2a85yqdn8b7m/Review-of-level-4.webm?rlkey=0buky38xis3z6uta44dwb1m2c&st=2ceya8ef&dl=0
- Adding our text to CoCo:
  https://www.dropbox.com/scl/fi/d0q5lhq1tkix6glx4dbo6/Adding-Our-Text-to-Coco.webm?rlkey=vjv4chk8akh0iaxdqimgom1tf&st=dqgxw9dd&dl=0

PAUSE HERE AND ADD YOUR WRITING TO COCO

Alright class, pause here and add your recipe to CoCo.

INSTRUCTIONS

☑ Add your writing to CoCo column 1

❑ Plan your animation
❑ Use CoCo to pick Scratch blocks for your animation

COCO
COMPOSE & CODE

DEPICT-CS

Next we will plan our animation and use CoCo to pick the correct Scratch blocks.

PLAN YOUR ANIMATION

Now that you've got more Scratch commands in your toolkit, we are going to start planning out what we are going to do in Coco and, eventually Scratch, to animate our explanatory writing from last time. We are going to use another graphic organizer to plan.

In a moment, your teacher will give you a planning document to start planning out each step. It includes a list of the options in CoCo's "What I want to do" column because this tool will help you keep track of your commands as you begin working in Scratch.

REMEMBER COCO'S FOUR COLUMNS!

Remind students of CoCo's four columns and their purposes.

HOW TO USE THE PLANNING DOCUMENT

Instructions

Use this document to plan your Scratch animation.

In each box below, draw a picture of how you'd like to illustrate each part of the story you've written.

But remember: use only the Scratch blocks in CoCo. They are:

- Add or change a background
- Make my character/sprite talk
- Make my character think something
- Create a costume
- Switch a costume
- Move my object or character
- Turn my object or character and then move them

My ideas:	What I Want to Do:
First,	- Do I need to add or change a background? Y / N - Do I need to make my character/sprite talk? Y / N - Do I need to make my character think something? Y / N - Do I need to create a costume? Y / N - Do I need to switch a costume? Y / N - Do I need to move my object or character? Y / N - Do I need to turn my object or character and then move them? Y / N
Then,	- Do I need to add or change a background? Y / N - Do I need to make my character/sprite talk? Y / N - Do I need to make my character think something? Y / N - Do I need to create a costume? Y / N - Do I need to switch a costume? Y / N - Do I need to move my object or character? Y / N - Do I need to turn my object or character and then move them? Y / N

To use the planner, you will draw out what you want to happen in each step of your writing. Then, think about what you will need to accomplish this step.

Link:
https://www.dropbox.com/s/i8e3s7zz5e01a88/U3L2_Storyboard%20for%20Scratch%20Animation.docx?dl=0

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✓ Begin planning my animation

Check off objectives as lesson proceeds.

WRAP UP

Computational thinking means **"thinking like a computer scientist."**

We've learned about these computational thinking skills:
- Pattern recognition
- Sequencing
- Creating algorithms
- Abstraction
- Decomposition

Which one of these is your favorite?

[read slide]