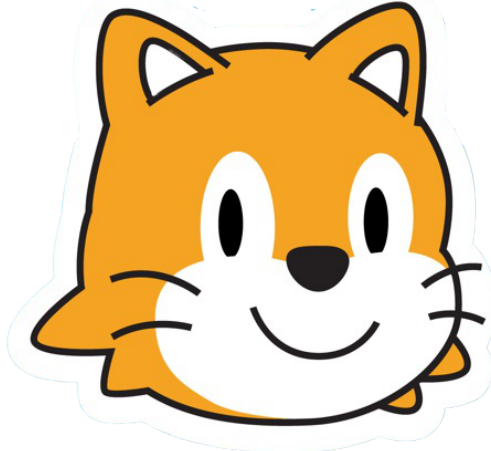




# Reinforcing Math and Literacy Curriculum



Created by DevTech Research Group  
Headed by Marina Bers

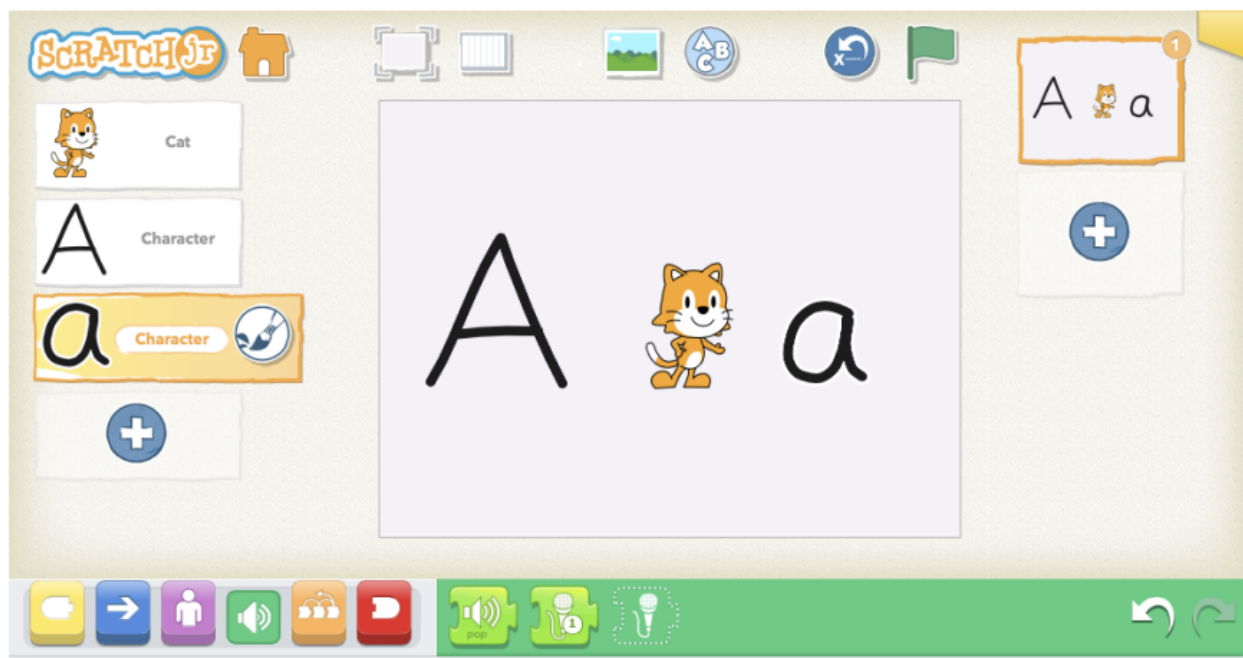
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## Recognizing and Naming Uppercase and Lowercase Letters

**Reading Standards:** Foundational Skills 1d (Recognize and name upper- and lowercase letters);

**Language Standards:** Conventions of Standard English 1a (Print upper- and lowercase letters)



a



1. **Setup:** Make a character for an uppercase letter

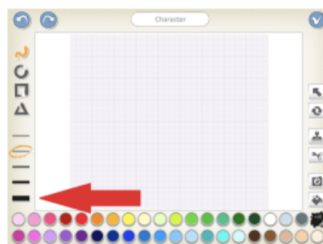
Click on the + in the Character Area



Select the paintbrush



Select a thick line for drawing



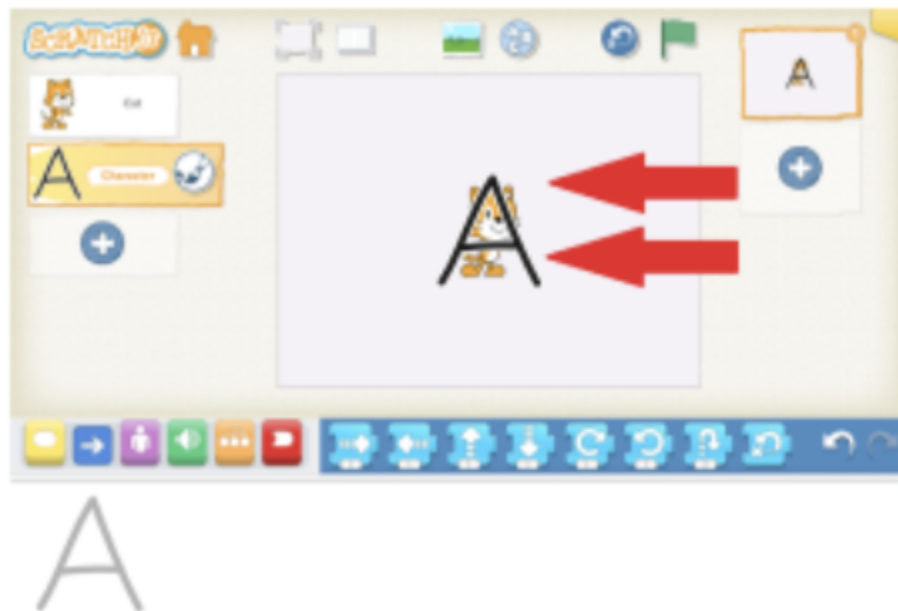
Draw a capital "A" (or other letter) with your finger.



Select the check mark to save and continue



Move the letter over to the right or left of the Stage with your finger so that it's not overlapping the cat. (Or delete the cat by pressing and holding on the cat until you see a red "X" and then click on the "X".)



Congratulations! You are ready to program your letter.





2. **Programming:** Have the letter say its name when you click on it.
  - a. Trigger an action when the letter is touched.

Select the yellow button from the Block Categories area to reveal the “triggering” blocks.

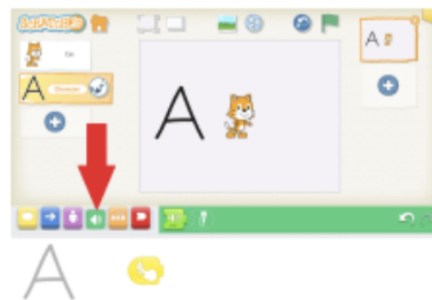


Select the “Start on Tap” block and drag it to the Programming Area.



b. Make a recording for the letter to play.

Select the green button from the Block Categories area to reveal the “sound” blocks.



Select the “record” block



Press the red “record” button to begin recording. Say the name of the letter, in this case, “Capital A.”



Press the “record” button again (or the square “stop” button) to stop recording. To hear your recording, press the triangle “play” button. If you are satisfied with your recording, press the check to save and exit. If not, press the red record button to re-record.

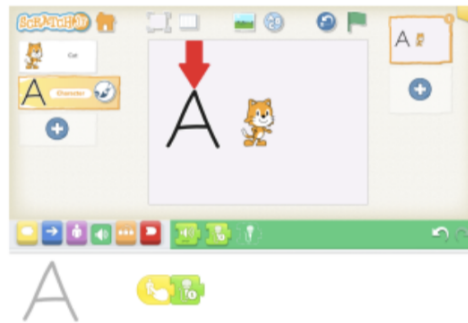


c. Connect the recording to the action block.

Once you have made a recording, you will see an extra green button with a number on a microphone. Drag it to your program area and connect it to the yellow button.



Press on the letter in the stage area to try it out. When you tap the letter, it should play the sound that you recorded for it.



3. Repeat steps 1 and 2 to make a corresponding lowercase letter, and for other uppercase and lowercase letters.



4. Extension: Animate the letter after it plays its recording.

Add blocks from the blue or purple categories to the end of your script. Some possibilities are wiggle, jump, and grow/shrink.



## Recognizing and Naming Uppercase and Lowercase Letters Extended version - Using Messaging

**Reading Standards:** Foundational Skills 1d (Recognize and name upper- and lowercase letters);

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**Language Standards:** Conventions of Standard English 1a (Print upper- and lowercase letters)

**CCSS.ELA-LITERACY.RI.3.8:** Logical connection between cause and effect



1. **Setup:** Complete the basic version of “Recognizing and Naming Uppercase and Lowercase Letters” including the extension (Step 4) to animate the letters.



2. Connect uppercase letter to its corresponding lowercase letter. When the uppercase letter is touched, it will play its recording and do its animations and then send a message to the lowercase letter. When the lowercase letter receives the message, it will play its recording and do its animations.
  - a. Send a message from the uppercase letter to the lowercase letter:

Select the character for one of the uppercase letters so that you can modify its script.



Select the yellow button from the Block Categories area to reveal the “triggering” blocks.



Drag the closed envelope “Send Start Message” block to the Programming Area and snap it into place at the end of the script.



- b. Have the lowercase letter play its recording and do an animation when it receives the message sent by the uppercase letter. Select the character for the corresponding lowercase letter to reveal its script.



Drag the open envelope “Start On Message” block to the Programming Area to start a new script in addition to the one that is already there.



Select the green button from the Block Categories area to reveal the “sound” blocks.



Drag the microphone button with your sound recording to the Programming Area and snap it into place next to the open envelope.



Select the blue button from the Block Categories to reveal the motion blocks.



Add any of the motion blocks to the end of your new script to animate the lowercase letter.



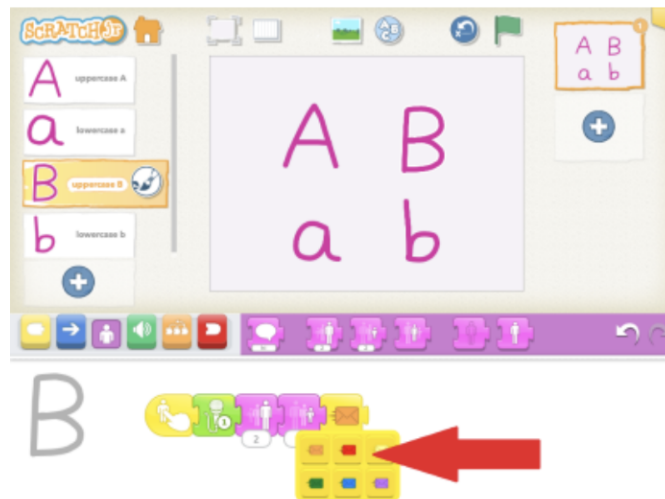
3. Repeat step 2 for all pairs of uppercase and lowercase letters. Make sure to change the color of the message envelope so that each pair is using a unique color. Because there are 6 possible envelope colors, you may have up to 6 pairs of letters in this project.

To change the color of the envelope, tap the arrow that is at the bottom of the closed envelope block.





Select a color that you have not yet used.



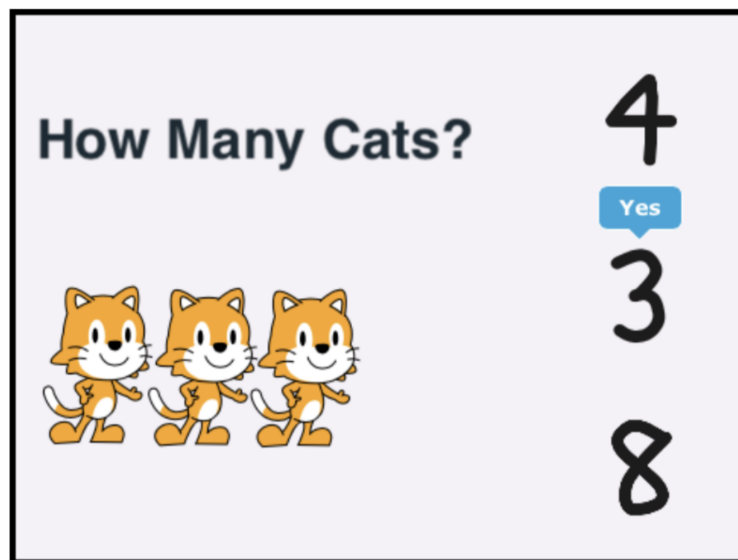
Make sure the corresponding lowercase letter is looking for the same color envelope.



## Counting and Cardinality

**CCSS.MATH.CONTENT.K.CC.B.4 Counting and Cardinality:** Count to Tell the Number of Objects

This project makes a game for guessing how many cats are on the screen. The player will know whether he or she has tapped on the correct answer by reading the message that appears.



These are the steps for making this project:

1. Make multiple cats with the “Stamp” tool in the Paint Editor
2. Make numbers for the possible answers

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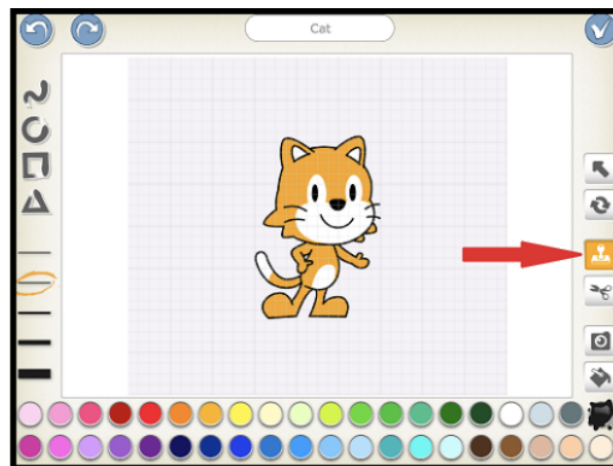
3. Make a script for the cats
4. Make scripts for the numbers
5. Put a title at the top of the screen

1. **Setup Part 1:** Edit the cat character to include more cats.

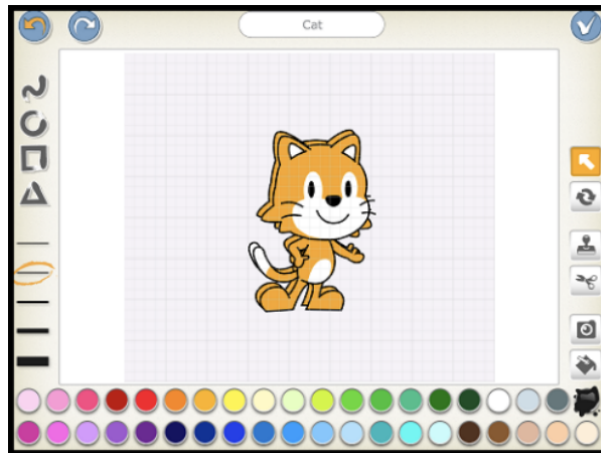
Tap on the paintbrush next to the cat.



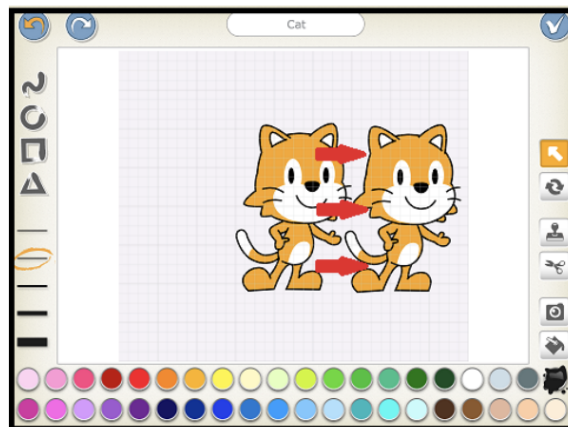
Select the stamp.



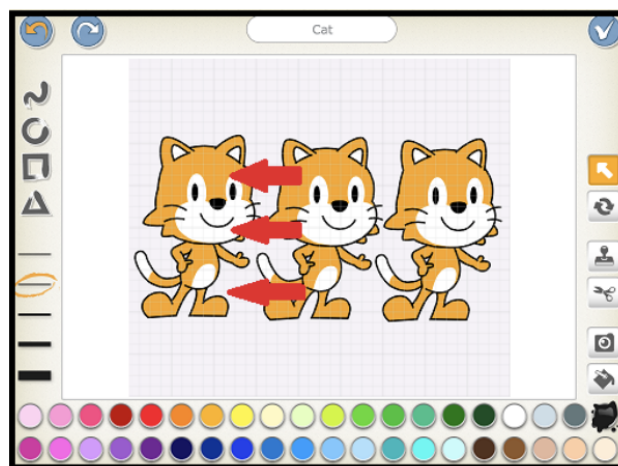
Tap on the cat to duplicate it. You will see a second cat on top of the first.



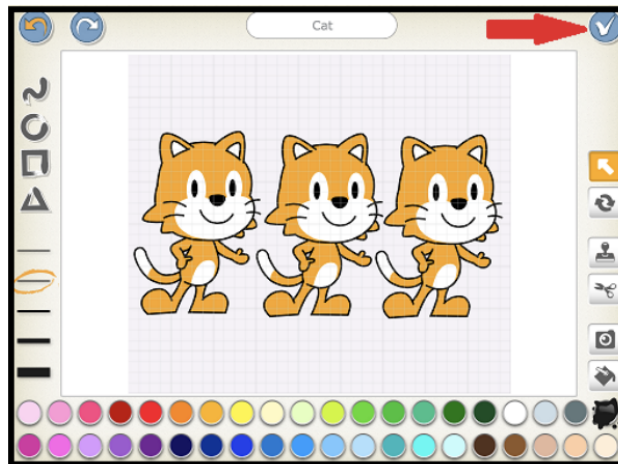
Slide the top cat over to the right.



Tap on the stamp again to make another cat, and slide the cat over to the left.



Tap on the check mark to finish editing.



Slide the cats over to the left a little bit to make room for the answer choices.

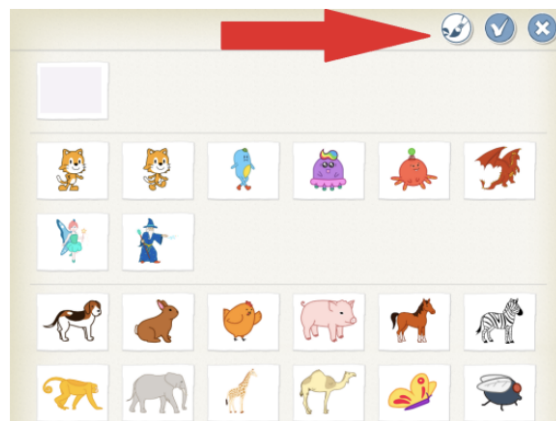


## 2. Setup Part 2: Make characters for the answer choices.

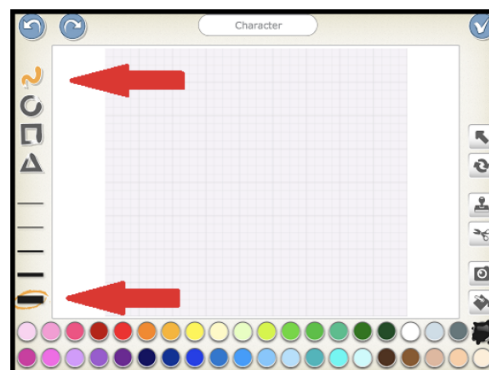
Click on the + in the Character Area



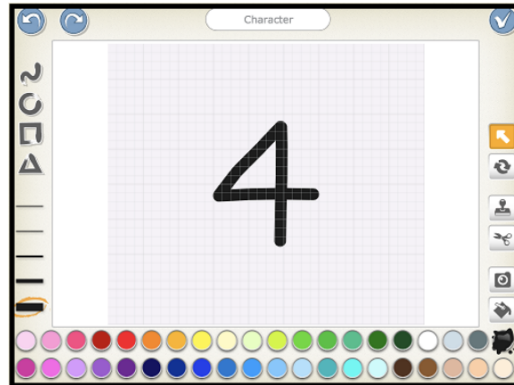
Select the paintbrush



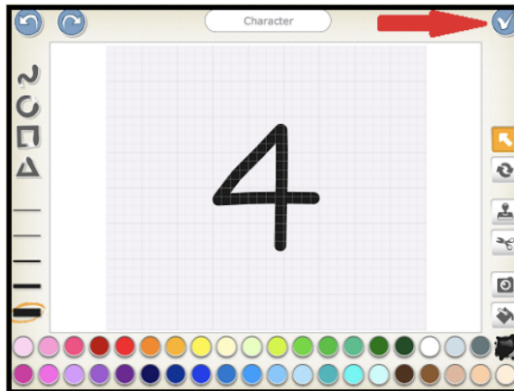
Select the free-form drawing tool and a thick line for drawing



Draw a number with your finger.



Select the check mark to save and continue



Repeat to make two more numbers for answer choices.



3. Program the Cats: Play a recording that asks “How many cats?” when you tap the cats.
  - a. Trigger an action when the cats are touched.



Select the cats so that you can write a program for them, and select the yellow button to reveal the “triggering” blocks.



Select the “Start on Tap” block and drag it to the Programming Area.

b. Make a recording for the cats to play.

Select the green button from the Block Categories area to reveal the “sound” blocks.



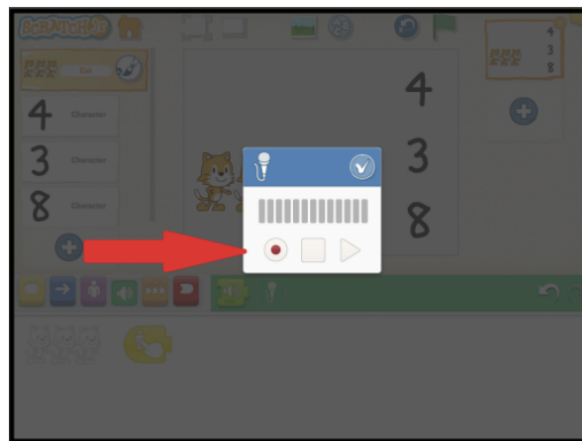
Select the “record” block

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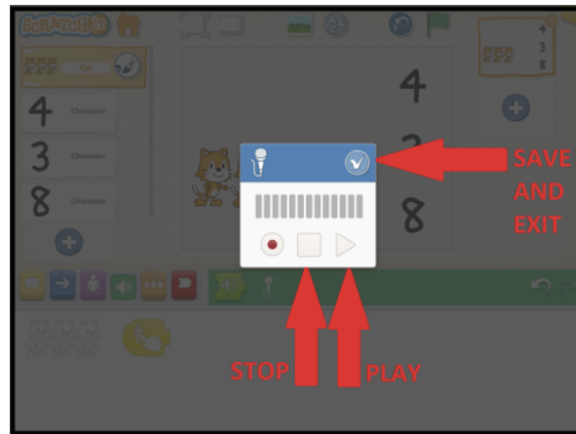




Press the red “record” button to begin recording. Say “How many cats are there?”



Press the “record” button again (or the square “stop” button) to stop recording. To hear your recording, press the triangle “play” button. If you are satisfied with your recording, press the check to save and exit. If not, press the red record button to re-record.



c. Connect the recording to the action block.



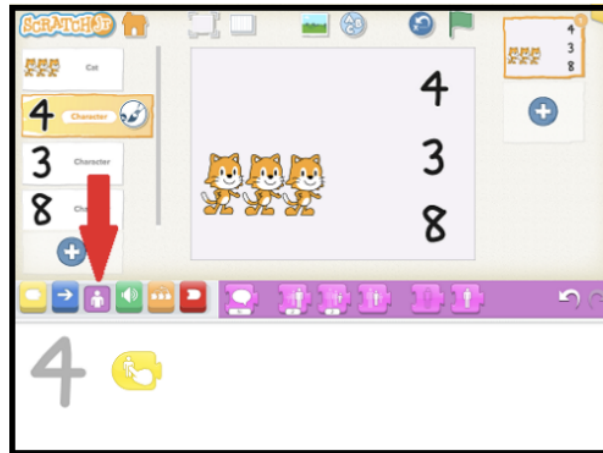
Once you have made a recording, you will see an extra green button with a number on a microphone. Drag it to your program area and connect it to the yellow button.

Press on the cats in the stage area to try it out. When you tap the cats, you should hear the sound that you recorded.



4. Program the numbers: When the number is tapped, it should indicate whether it's a correct or incorrect answer.

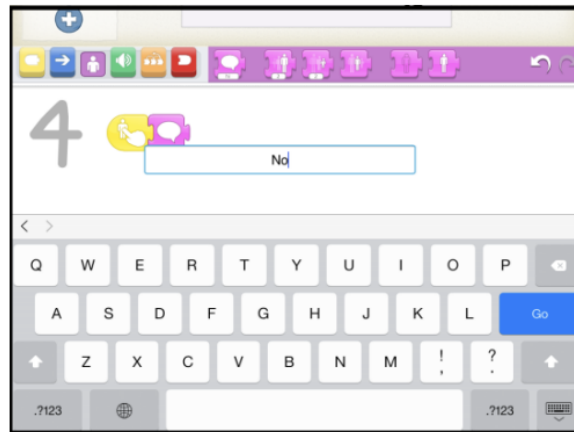
Select the purple “looks” category.



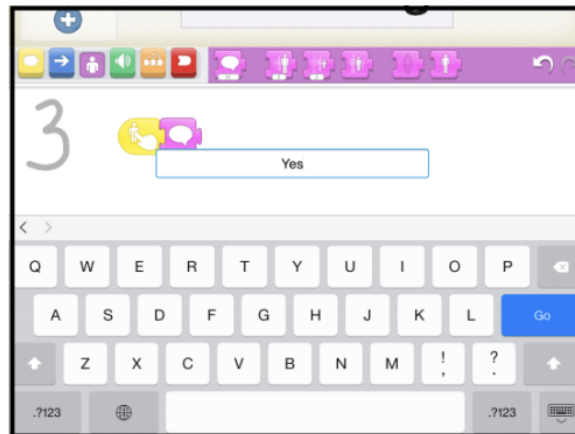
Select the “Say” block and drag it to the Programming Area.



Tap on the white area at the bottom of the “Say” block to change the word from “hi” to “no.”



Repeat for the other numbers, and make sure to have the correct answer say “yes”.



.....

5. Make a title to indicate what to do, in case the user doesn't tap the cats first.

Tap on the letter icon at the top of the screen to insert a title.



Enter the instructions, such as “How many cats?” and then press “Go.”



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6. Extension: Animate the number that is the correct answer.

Add blocks from the blue or purple categories to the end of your script. Some possibilities are wiggle, jump, and grow/shrink.

