

# LESSON 4

## ALGORITHMS

KINDERGARTEN



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](mailto:achutchison1@ua.edu)

# SUMMARY AND STANDARDS

## Summary:

In this lesson, students will sequence a story with a beginning, middle, and end, develop an algorithm to create the story, and publish a story in ScratchJr.

### ELA Standards:

#### Communication and Multimodal Literacies:

K.1 The student will build oral communication skills.

- h) Follow one- and two-step directions.

#### Reading:

K.7 The student will expand vocabulary and use of word meanings.

- e) Use number words.
- f) Use nouns to identify and name people, places, and things.
- h) Use verbs to identify actions.

K.8 The student will demonstrate comprehension of fictional texts.

- a) Identify the role of an author and an illustrator.
- b) Relate previous experiences to what is read.
- c) Use pictures to make predictions.
- d) Ask and answer questions about what is read.
- e) Use story elements of characters, settings, and events to retell stories sequentially using beginning, middle, and end.

### CS Standards:

K.1 The student will construct sets of step-by-step instructions (algorithms) either independently or collaboratively including sequencing that emphasize the beginning, middle, and end.

K.2 The student will construct programs to accomplish tasks as a means of creative expression using a block based programming language or unplugged activities, either independently or collaboratively, including sequencing, emphasizing the beginning, middle, and end.

## MATERIALS AND RESOURCES NEEDED FOR THIS LESSON:

In preparation for this lesson, you may need a copy of *The Three Little Pigs* and *Hello Ruby*.

You may also wish to review:

- [VIRTUAL L4GK Slide Deck](#) - Use these to display all related materials to students during lesson
- [ScratchJr Checklist](#)
- [Adding a Sprite and Setting in ScratchJr](#) video
- [Creating a Full Algorithm Using our Checklist](#) in ScratchJr
- ScratchJr [Blocks](#)
- ScratchJr [Interface Guide](#)
- ScratchJr triggering blocks [resource page](#)
- ScratchJr ["Drive Across the City"](#) activity

### ***Hello Ruby* Resources:**

In preparation for this lesson, you may wish to read aloud *Hello Ruby* chapters 5 and 6 in advance.

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

- Ask and answer questions about a story
- Sequence a story with a beginning, middle, and end
- Debug an algorithm
- Abstract one part of a story by developing an algorithm to represent the story scene in ScratchJr

### **Vocab:**

- Algorithms



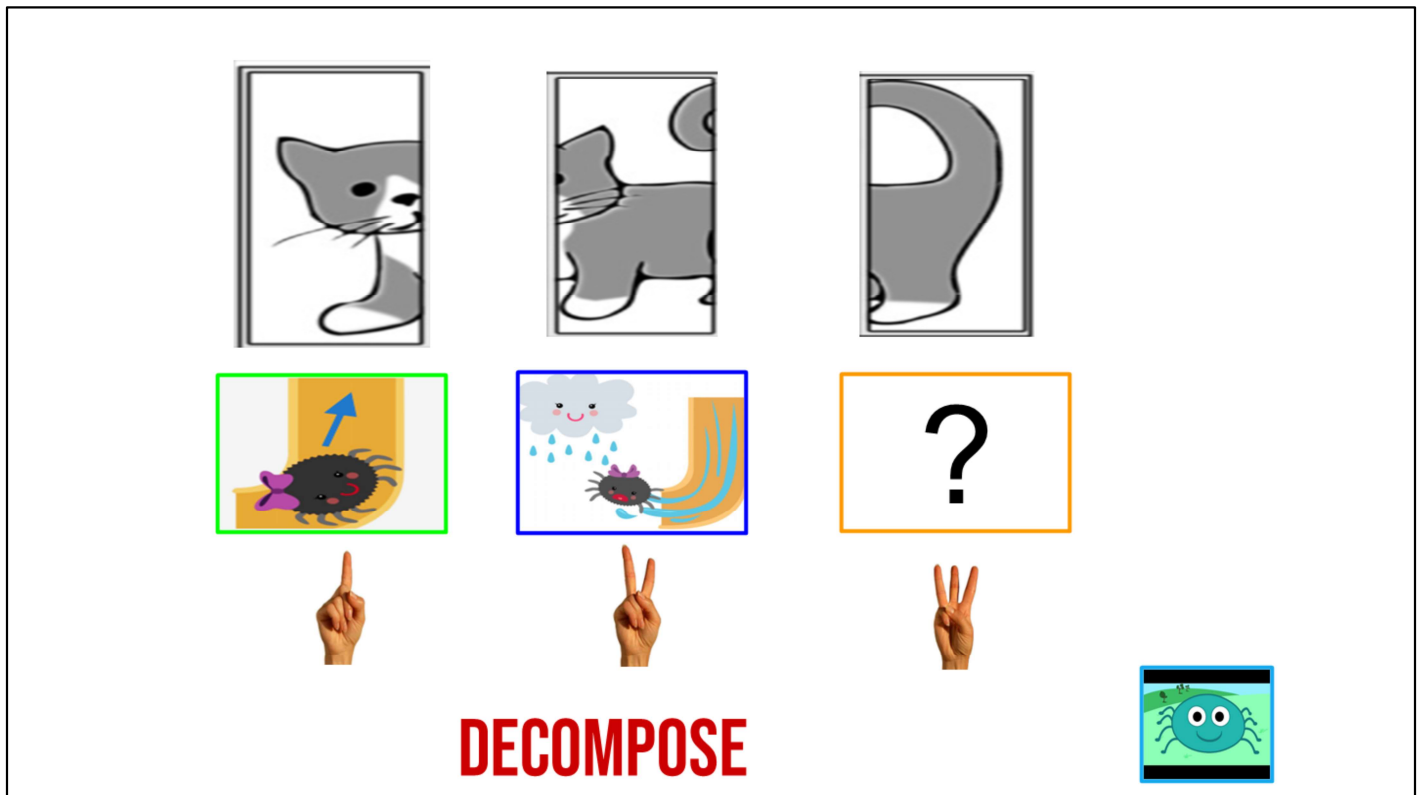
## COMPUTER SCIENCE



## Review key academic vocabulary and link concepts

- Computer science

“Welcome back to **computer science** in Kindergarten!”



Decompose: break problems apart into smaller pieces, to figure out how to solve them

- Discuss decomposition of The Itsy Bitsy Spider story

Last time, **(Slide 5)** we learned that computer scientists **decompose** problems, or break them apart into smaller pieces, to figure out how to solve problems.

We **decomposed** “Itsy Bitsy Spider”! (*Hold up one finger for three finger retell.*) by breaking it up into important details. The *first* part of our **decomposed** story was when Itsy Bitsy went UP the water spout.

The second important (*hold up two fingers*) detail we **decomposed** was when the rain washed Itsy Bitsy out of the water spout!

Who can remember the third (*hold up three fingers*) important detail we **decomposed**? (*Wait time*). *Provide students an opportunity to share.*

Video link: [https://www.youtube.com/watch?v=w\\_ICi8U49mY](https://www.youtube.com/watch?v=w_ICi8U49mY)

# DECOMPOSE



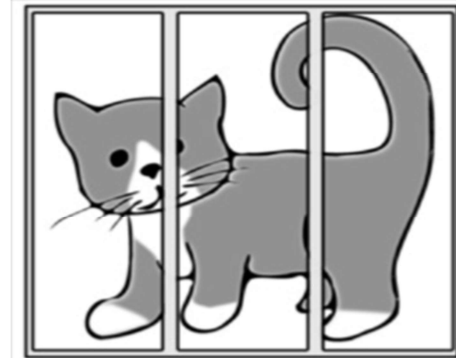
Yes! Great! The sun came out and Itsy Bitsy went back up the water spout! We **decomposed** our story into three parts. We learned that sometimes it is very important to **decompose** problems because when we **decompose** we can make problems that are very hard a little bit easier to understand.

By breaking the problem down into smaller pieces, we can solve problems that might otherwise be too tricky!

Video link: [https://www.youtube.com/watch?v=w\\_ICi8U49mY](https://www.youtube.com/watch?v=w_ICi8U49mY)

**REVIEW**

## ABSTRACTION



Abstraction: use the *most important* ideas to help make information easier to understand.

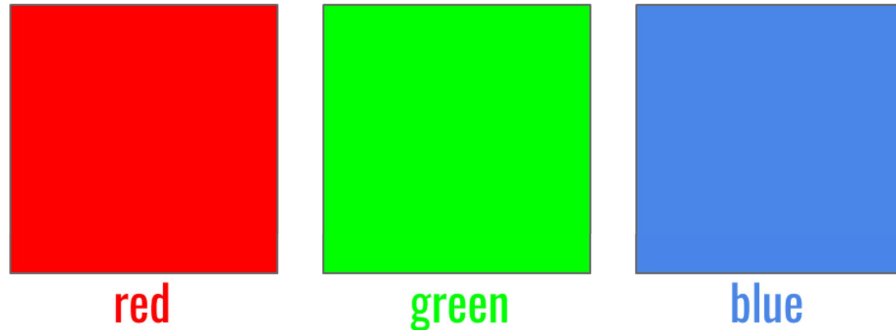
- Breakfast foods: waffles, eggs, cereal, pancakes

We also learned another new word and idea last time! We learned that **computer scientists** use **abstractions** to make things easier to understand. They use the *most important* ideas to help make information easier to understand.

Last time, we talked about how computer scientists sometimes use one word or idea to represent lots of different things!

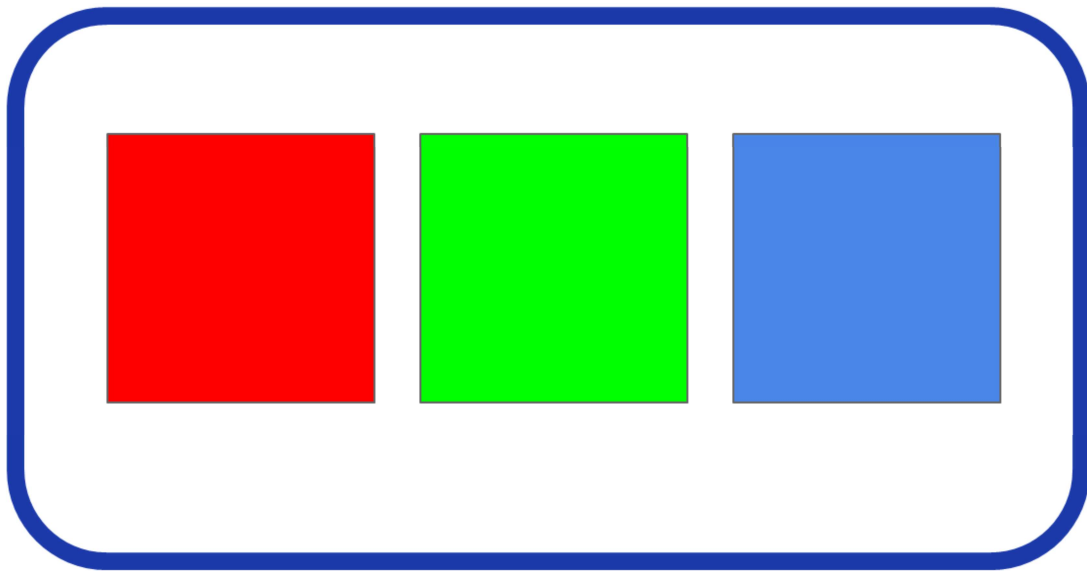
Hmmmm. I see waffles! I see cereal! I see eggs! I see pancakes! What do we call these types of foods? (*Wait time*). *Provide students an opportunity to share.*

That's right! These are breakfast foods! We eat them in the morning to help give us energy! I could say "Eat breakfast!" and you would probably know that I probably mean pancakes *or* eggs *or* cereal *or* waffles *or* fruit *or* toast because they are all breakfast foods.



## Color Example: red, blue, green

Now, I could say “*(insert student name)*, do you like red? Do you like green? Do you like blue? OR I could ask ONE question. Hmm, what ONE question could I ask *insert student name* that might be easier? *(Wait time)* I could ask *(insert student name)* \_\_\_\_\_, what is your favorite \_\_\_\_\_? *(Pause with emphasis on body language that shows you want them to fill in the blank. Wait time. Provide students an opportunity to share.*



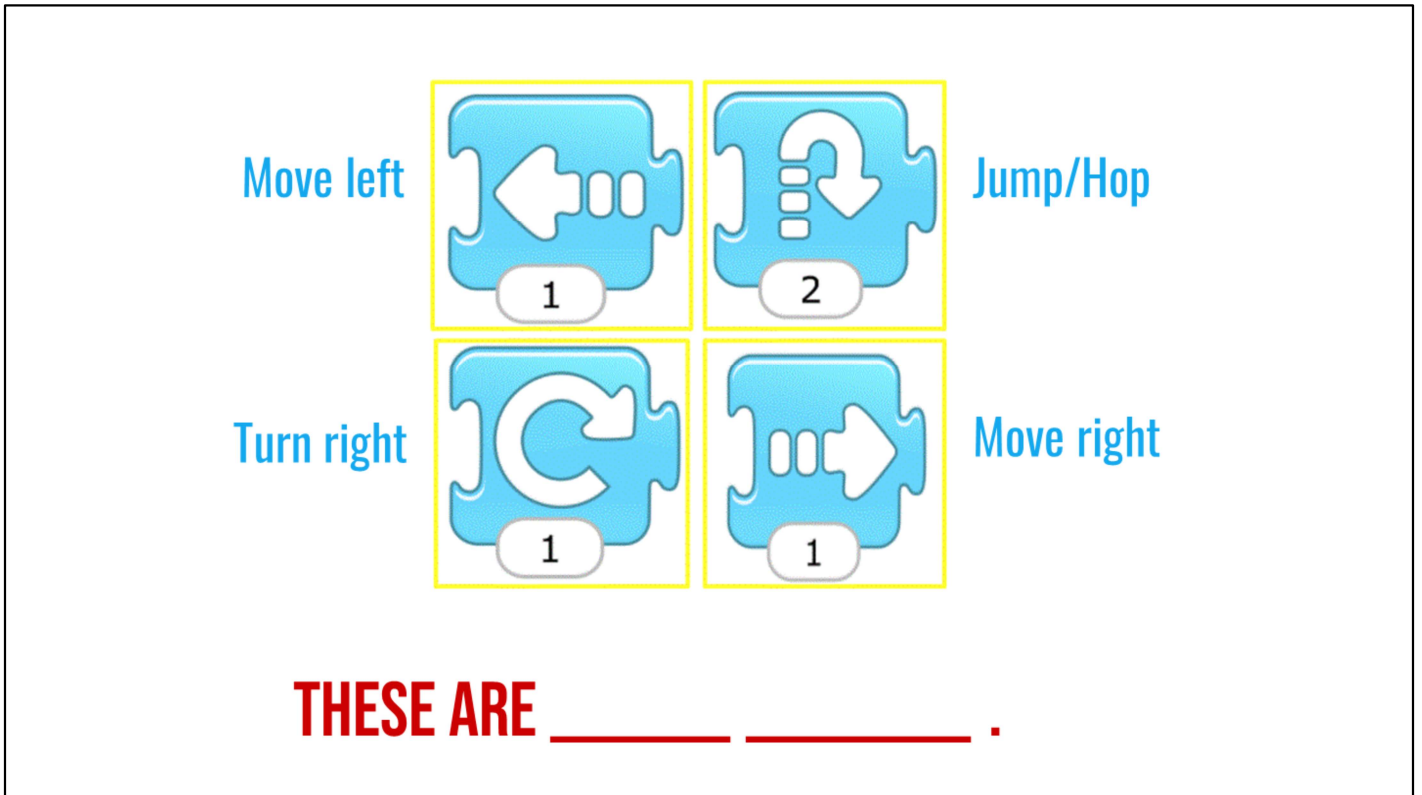
**WHAT IS YOUR FAVORITE COLOR?**

Answer: What is your favorite color?

That's right! I could ask *(insert student name)*, what is your favorite color? So, *(insert student name)*, what is your favorite color? *Wait time. Provide (insert student name) an opportunity to share.*

"So, *(insert student name)*, shared that their favorite color is *(repeat color student said)*.

*(insert student name)* could have said ANY color! Maybe it was red or green or blue but it was *(repeat color student said)*. *(if it's a color that wasn't on the slide, emphasize that abstractions help us because they can cover **all** options for that item/category)*. Abstractions are so cool! Even though *(insert other color name here)* wasn't listed, using the abstraction "color" instead of red or green or blue gave me my best answer for *(insert student name)*.

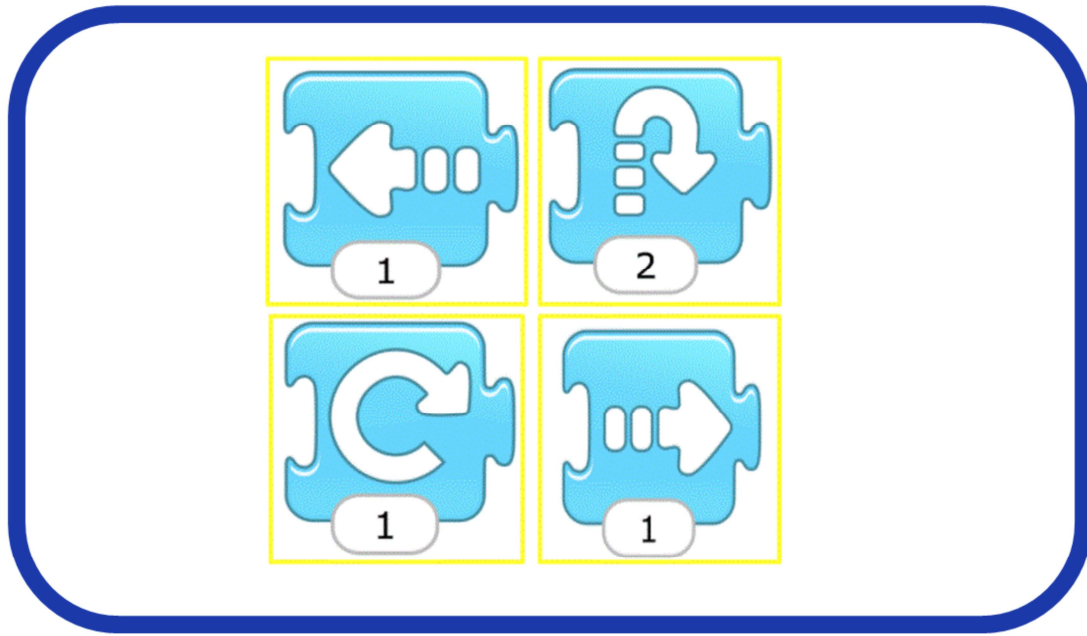


## ScratchJr Example: move left, jump, move right, turn right

Whoa! This one looks tricky! I see 'move right' and 'move left' and 'jump' and 'turn right'. *Where* are these from? (*Wait time*). *Provide students an opportunity to share.* That's right. They're blocks from ScratchJr.

Now, what *kind* of blocks are these? What do we call these blocks that tell our sprite how and where to move? (*Wait time*). *Provide students an opportunity to share..*





**THESE ARE MOTION BLOCKS.**

Answer: Motion blocks

Whoa! That's right. They're **motion blocks**. They tell our sprites where and how far to move! Good job! Now, I have another review question. If my sprite was jumping or hopping, how *many* times would they be jumping? (*Wait time*). *Provide students an opportunity to share.*

The image shows a Scratch code editor interface with four blue code blocks arranged in a 2x2 grid. The top-left block is labeled 'Move left' and has a '1' at the bottom. The top-right block is labeled 'Jump/Hop' and has a '2' at the bottom, which is circled in pink. The bottom-left block is labeled 'Turn right' and has a '1' at the bottom. The bottom-right block is labeled 'Move right' and has a '1' at the bottom. A blue rounded rectangle highlights the 'Jump/Hop' block. A red arrow with a blue outline points from the 'OUR SPRITE' text to the 'Jump/Hop' block. Below the blocks is a small blue cartoon sprite with a yellow belly and red shoes. The text 'OUR SPRITE IS JUMPING 2 TIMES' is written in red below the sprite.

Move left

Jump/Hop

Turn right

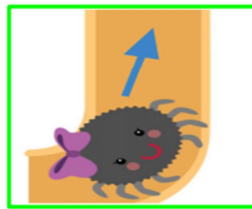
Move right

OUR SPRITE IS JUMPING 2 TIMES

Answer: Our sprite moves 2 spaces

Great! Yes, our sprite moves two spaces. *Insert student name*, how did you know that? *Insert student name*, how did you know that? (*Wait time*). *Provide student who answered question correctly an opportunity to share*. Wonderful! You looked at the number at the bottom of the jump block and it says '2.'" Great job!

## LET'S THINK ABOUT OUR LAST COMPUTER SCIENCE LESSON...



1



2



3

**SEQUENCE**

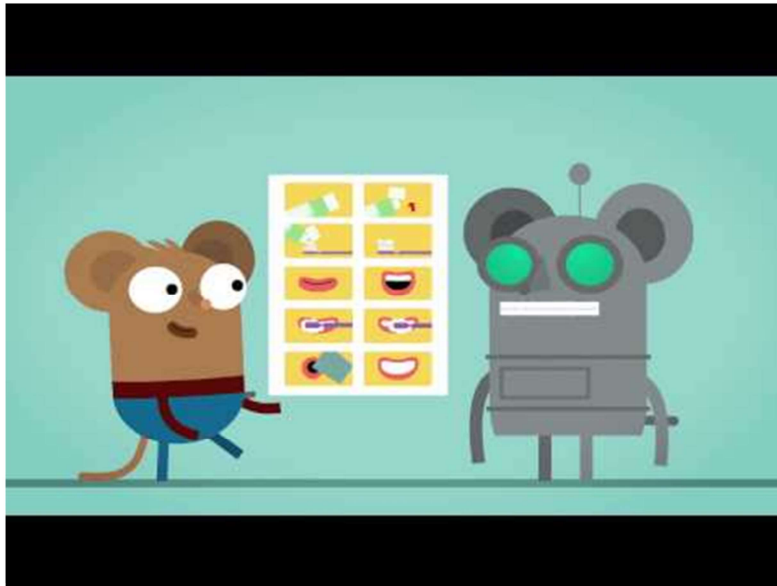
The Itsy Bitsy Spider Example of abstraction.

- First, *the Itsy Bitsy* went up the water spout, then it rained and washed Itsy Bitsy out, then the Itsy Bitsy went back UP the water spout.

“Now, last time when we **abstracted** our story, The Itsy Bitsy Spider, we **abstracted** the three most important details. First, (*hold up one finger*) Itsy Bitsy went up the water spout, (*hold up one finger*) then it rained and washed Itsy Bitsy out, then what happened in the end (*hold up three fingers*)? Where did Itsy Bitsy go? (*hold up three fingers*) (*Wait time*). *Provide students an opportunity to share.*

“That’s right! Itsy Bitsy went back UP the water spout. Great job!”

## WHAT IS AN ALGORITHM? -CLICK ON IMAGE TO PLAY



“Today, we are going to watch a video. While we are watching, I want you to think about the computer science words that you hear and what they mean. Do you hear words we have talked about when we have been learning about computer science? Do you hear new words?”

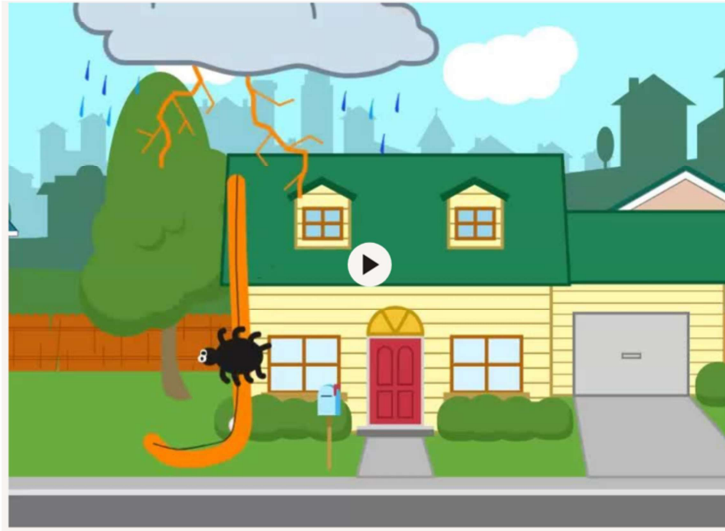
What new word did you hear? *Provide students an opportunity to share* . That’s right.

Yes, like we mentioned earlier, today is all about **algorithms**. And, the video was ALL about **algorithms**! An **algorithm** is a set of directions!

Video link:

<https://www.youtube.com/watch?v=Da5TOXCwLSg>

## ITSY BITSY SPIDER IN SCRATCHJR! -CLICK ON IMAGE



[How to Slow Playback](#)

The Itsy Bitsy Spider video algorithm

Now, I have something cool to show you! I am going to show a [video](#) that I made in ScratchJr! I want you to think about what we know about the Itsy Bitsy Spider, and then I want you to tell me what happened in the video I made. I'll give you a hint. I used an **algorithm** to tell the spider where to move!

*(Play [video](#). You may want to use the '[slow playback](#)' feature available on the video to support student learning. **Note\*** The FULL [algorithm of Itsy Bitsy video is located here](#) if you want to recreate it and/or use it to build onto resources for the next lesson).*

*Video link: <https://drive.google.com/file/d/18s4GVcUpHmNAZ1ot6GAY-UaesGPjnXR1/view>*

## WE USED BLOCKS TO RETELL OUR STORY IN SCRATCHJR!



## ScratchJr blocks to retell The Itsy Bitsy Spider story

“What did we notice about the spider? Where did Itsy Bitsy go?(*Wait time*).  
*Provide students an opportunity to share.*

That’s right! Itsy Bitsy went up, and then it rained, and the rain washed itsy bitsy down, and then the sun came out and Itsy Bitsy went back up again.

# ALGORITHM



Algorithm: The green start flag, motion blocks, and end block.

We made an **algorithm** and didn't even realize it!

# **GUIDED INSTRUCTION**





algorithm

**Algorithms** are directions for a computer to solve a problem or to do something.

“Today, we will be thinking about **algorithms**. Can you say **algorithm**? (Prompt echo response) **Algorithms** are just like directions. Just like when we play a game and need to follow the directions for how to play, computers need directions, too.

**Algorithms** are directions for a computer to solve a problem or to do something. People and computers solve problems and tasks every day. Something that makes humans and computers different is that humans can make their own decisions. Computers need computer programmers to tell them what to do.

## WHERE IS THE SETTING? WHO IS THE CHARACTER? -CLICK TO PLAY



Algorithm video: Who is the character? Where do you think the characters are?

“Now, I’m going to show you a [very short video](#), so you can see a piece of another story brought to life! This video uses a different **algorithm** than the **algorithm** I used in Itsy Bitsy.

I know this because the cat sprite’s actions, or the events of the story, are different from the actions or events of Itsy Bitsy’s. While you’re watching, I want you to think about the story. *Who* is our **character**, or *who* is our story about? *Where* do you think our characters are? What is the **setting**, or *where* does the story take place? And, how do you know?” ([Play video](#))

Now, who do you think is our main **character**? Who is our story about? *Provide students an opportunity to share .*

Video link: <https://www.youtube.com/watch?v=T2RwC7hN9mk>



**character** (*sprite*)

Answer: cat sprite

“Yes, it’s about the cat **sprite**. Great! The cat is our **character**. Now, what do you think our setting is? **Setting** means where our story takes place. Where do you think the **setting** is?” *Provide students an opportunity to share.*



“**setting**” (*where* and *when*)

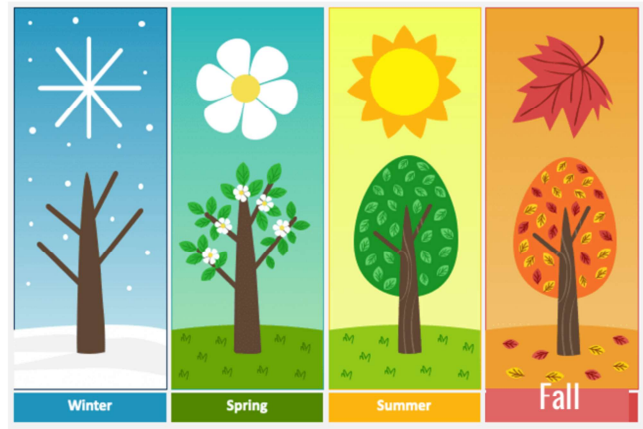


Answer: woods or park

“Yes, the **setting** is in the woods or maybe at a park. We know that because we see lots of trees and grass. Do we think this story happens in the winter, spring, summer, or fall?” *Provide students an opportunity to share.*

When does the story take place?

The story takes place in the \_\_\_\_\_.



Answer: fall

“Great! This story likely takes place in the fall! How do we know that?” *Provide students an opportunity to share.*

“Excellent! We know it likely takes place in the fall because the leaves are changing colors! The leaves are orange and yellow and red, and the cat sprite even says that he likes to jump in the leaves, which we usually do in the fall!

When we think about the **setting**, it’s good to think about both where and when our story takes place. For example, it’s fall and the cat sprite loves to jump in the leaves, but if it were winter, then maybe the cat wouldn’t want to be outside! Our **setting** is important for helping describe our story.”

## LET'S CREATE A STORY IN SCRATCHJR!



## Create a story in ScratchJr: The Three Little Pigs

“Okay, I am so excited because we are going to take all of this **computer science** learning we have been doing and combine it with our writing to create amazing stories in ScratchJr!

Just like **computer scientists** and **computer programmers** plan their work, we are going to *plan* our stories and our ScratchJr work. We are going to take a story we have heard before, ‘The Three Little Pigs’ and we are going to create the story in ScratchJr!

# CS FOR ALL

Pre-Scratch, Jr Checklist Did I do it? Check the box

My name: \_\_\_\_\_

1 Draw or describe your main **character**. What does your character look like?



character

My character is \_\_\_\_\_

2 Draw or describe your **setting**. Where does your story take place?



setting

My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?



events

In my story, the character \_\_\_\_\_

New Checklist: Plan the story by thinking about the **characters**, **setting**, and **events** that happen in the story.

We also have a new checklist that we are going to use to help plan our stories in ScratchJr. Before we start coding our algorithms in ScratchJr we need to plan what our story will be about!

We have to think about the **characters**, **setting**, and **events** that happen in the story, before we start coding in ScratchJr.



**“Characters”  
(sprite)**



**Who is my story  
about?**



CS FOR ALL

---

Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? Check the box

① Draw or describe your main **character**. What does your character look like?



character

My character is \_\_\_\_\_

② Draw or describe your **setting**. Where does your story take place?



setting

My story takes place \_\_\_\_\_

③ What are the **events** in your story? What happens in your story?



events

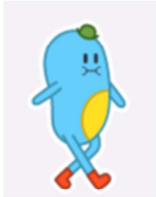
In my story, the character \_\_\_\_\_

## Plan out characters for the story: The Three Little Pigs

The first thing we are going to think about when we are planning our ScratchJr stories is our characters. A character is who our story is about. Maybe our character is a wizard, or a basketball player, or a fish, or even a pig! Since we are writing a story about the “Three Little Pigs,” I am going to write about my pig characters. I will have three cute pink pigs that are brother and sister. I will also have a wolf that is very mean and wants to hurt the pigs. Mean wolf!

## USE WORDS OR DRAW THE CHARACTERS!

Describe or draw your main **character**. What does your character look like?



character



is the three little pigs and the wolf.

In my story, the character \_\_\_\_\_.

## Use words or draw pictures of the characters

Now, I use the checklist to write about my characters. I have written that there are three little pigs and a wolf. Do you see where I have written about my characters on my checklist? I also drew a picture of 3 pigs and the wolf. *Provide students an opportunity to share.*

Good, I can give lots of detail here when I am using it to make my ScratchJr stories, but since I am just thinking about the beginning of my story, this is all I will write about my characters for now.

Since we are using a checklist, we must do a special step every time we finish something. What do we need to do? *Provide students an opportunity to share.*

**CS FOR ALL**

Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it?  Check the box

1 Draw or describe your **character**. What does your character look like?  
  
My character is wolf

2 Draw or describe your **setting**. Where does your story take place?  
  
My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?  
  
In my story, the character \_\_\_\_\_

**Did I do this step?  
Check the box.**

## Check the box when complete

Good! We check it off on our checklist! Every time we finish something on our checklist, we are going to check the box next to it, just like this.

**“setting”  
(backdrop)**



**Where and when does my  
story take place?**




# CS FOR ALL


Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? Check the box

1 Draw or describe your main **character**. What does your character look like?




character



is the three little pigs and the wolf.

My character is \_\_\_\_\_

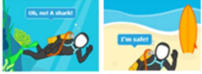
2 Draw or describe your **setting**. Where does your story take place?



setting

My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?



events

In my story, the character \_\_\_\_\_

## Describe the setting for the story

Now, I need to describe my setting on my writing checklist. Since the story is the Three Little Pigs, I will describe the setting of the Three Little Pigs. I drew a picture of where I want the little pigs to live. There is green grass and a river.

## USE WORDS OR DRAW THE SETTING!

Draw or describe your **setting**. Where does your story take place?



setting



near a pretty river and trees

My story takes place \_\_\_\_\_.

## Use words or draw pictures of the setting

“Okay, let me read it, “My story takes place near a pretty river and trees.” So now that I have filled out the setting section of my checklist by writing some words using my sentence frame and making a drawing. What do I need to do to my checklist? *Provide students an opportunity to share.*

**CS FOR ALL**

Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? *Check the box*

1 Draw or describe your main **character**. What does your character look like?

**character** is the three little pigs and the wolf.

My character is \_\_\_\_\_

2 Draw or describe your **setting**. Where does your story take place?

**setting** near a pretty river and trees

My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?

**events**

In my story, the character \_\_\_\_\_

**Did I do this step?  
Check the box.**

Check the box when complete

“That’s right! I check off my checklist!”

**“events”**



**What events happen in my story?**




**CS FOR ALL**


Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? Check the box

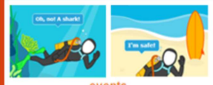
1 Draw or describe your main **character**. What does your character look like?

  
character is the three little pigs and the wolf.  
My character is \_\_\_\_\_

2 Draw or describe your **setting**. Where does your story take place?

  
setting near a pretty river and trees  
My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?

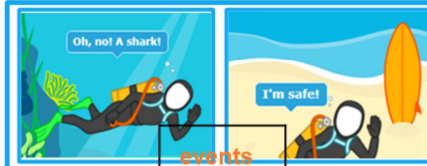
  
events  
In my story, the character \_\_\_\_\_

## Describe the events that happen in the story

“Next, I’m going to describe some of the events that happen to the character in my story. Many of us have read the “Three Little Pigs.” What is one of the first things that happen in the story? *Provide students an opportunity to share.*”

## USE WORDS OR DRAW!

What are the **events** in your story? What happens in your story?



1. The pigs left home.



1. The wolf tried to blow down the pigs' houses.



1. The pigs tricked the wolf.



In my story, the character \_\_\_\_\_.

## Use words or draw the events of the story

“That’s right. They leave their home to go build their own houses. Then, the big, bad wolf chases them and tries to blow their houses down. Then, the pigs trick the wolf. Okay, so now that I finished writing about my events in my story, what do I need to do to my checklist? *Provide students an opportunity to share.*”



# CS FOR ALL

## Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? *Check the box*

- 1 Draw or describe your main **character**. What does your character look like?



character



is the three little pigs and the wolf.

My character is \_\_\_\_\_

- 2 Draw or describe your **setting**. Where does your story take place?



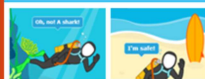
setting



near a pretty river and trees

My story takes place \_\_\_\_\_

- 3 What are the **events** in your story? What happens in your story?



events

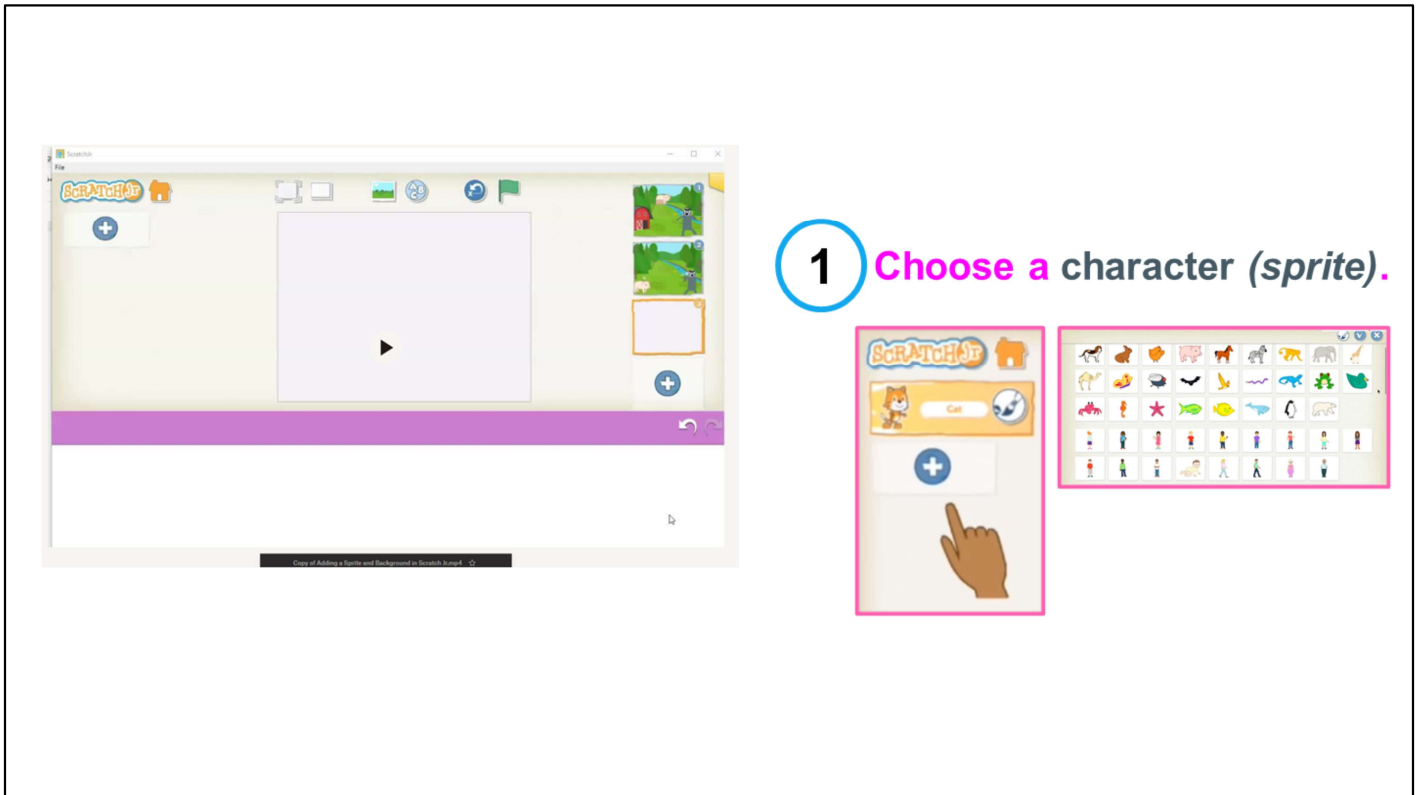
1. The pigs left home.
1. The wolf tried to blow down the pigs' houses.
1. The pigs tricked the wolf.

In my story, the character \_\_\_\_\_

Did I do this step?  
**Check** the box.

Check the box when complete

“That's right! I check off my checklist!”



1 Choose a character (sprite).

## Tell the computer what to do!

- Choose character/sprite

“Great job! Now that we know which part of the story we want to bring to life and what it looks like, we need to tell the computer what to do! Now that we have finished pre-writing, I need to create my ScratchJr story!”

“First, I need to choose my **character**, or *sprite*, and **setting**, or *where* my story takes place. ([Play video](#), or *in real-time* “We can do that by clicking the picture icon right here!”

“What character do you think we need for this story? That’s right! We need a pig! Let’s start with *just one* pig for this activity. We can choose a new sprite by clicking the plus sign, and then clicking on the pig.”

Video link:

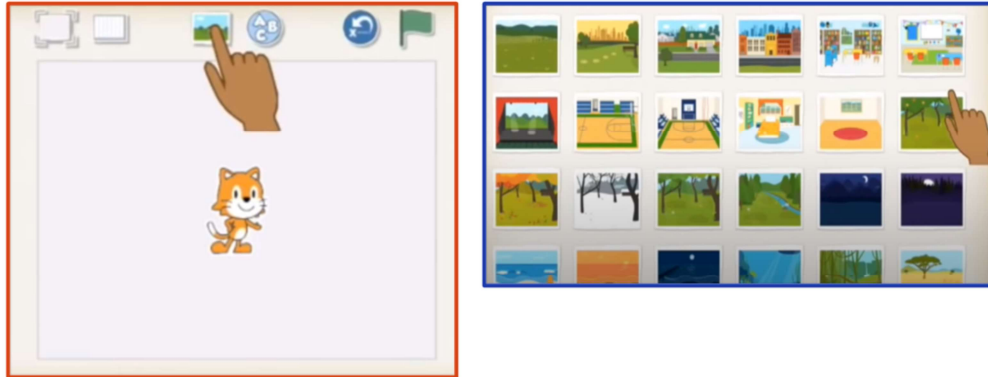
<https://drive.google.com/file/d/1hPW8wu51LHVtfs7qiBNZWPYOCx3JCbwJ/view>



## Check off when complete

Now that we have chosen a sprite, what do we do with that item on our checklist?  
*Provide students an opportunity share.* "That's right! We check it off our checklist."

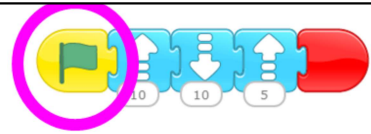
## 2 CHOOSE A SETTING.



### Choose a setting

“Next, we have to choose a setting. Hmm. Let me look at the settings to think about which one works best with my story, “The Three Little Pigs,” *(scroll to a choice that should clearly be wrong such as a cityscape or the ocean, what about one of this setting? Does this setting help show the reader the where “The Three Little Pigs Live?” Provide students an opportunity to share.* “No, we want to choose one that looks most like our story setting(\*Click on ‘river’backdrop.)

How do we *start* an **algorithm** in ScratchJr.?



“Click the **green start flag** and drag it to the work area.”



## Add a green flag block to start

“Now that we have our pig, we need to move him to the bottom. Next, to begin an **algorithm** in ScratchJr, or to tell the computer what we want it to do, we first have to tell the computer that we will be starting. We can do that by adding a Green Flag block to start!

“I’m going to start my **algorithm** with the green flag.” “Great, I dragged my green start flag to the work area. Now, what do I do with my checklist? *Provide students an opportunity share*

The image shows a 'Scratch, Jr Checklist' interface. At the top, it says 'Scratch, Jr Checklist' and 'Did I do it? Check the box.' with a checked box. Below are four numbered steps, each with a screenshot of the Scratch, Jr interface and a checkbox:

- 1. Did I click on a new project?  (Screenshot shows 'My Projects' screen with a yellow arrow pointing to the '+' button)
- 2. Did I choose a setting?  (Screenshot shows the 'Settings' screen with a yellow arrow pointing to the 'Background' dropdown)
- 3. Did I choose a character (sprite)?  (Screenshot shows the 'Choose a Sprite' screen with a yellow arrow pointing to a character)
- 4. Did I start with the green flag block?  (Screenshot shows the 'When Green Flag Clicked' screen with a yellow arrow pointing to the 'Click Here to Start' button)

Below these is the 'EVENTS IN MY STORY' section, which says 'Complete in ANY Order' and 'Did I do it? Check the box.' with a checked box. It contains five items:

- A. Did I choose at least 2 motion blocks?  (Icons: Move, Turn, Slide)
- B. Did I choose 1 sound block?  (Icons: Sound, Sound Effect)
- C. Did I choose at least 1 control block?  (Icons: Timing, Loop)
- D. Does my character (sprite) talk?  (Icon: Talk)
- E. Did I end with the stop block?  (Icon: Stop)

Annotations include a large blue arrow pointing to the right, a red circle around the checked box for step 4, and a green checkmark next to the text 'Did I do this step? Check the box.' to the right of the checklist.

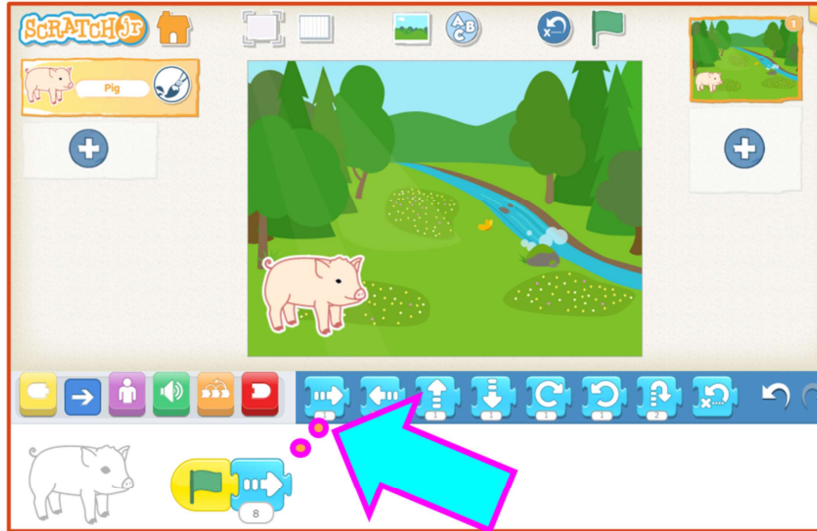
## Check off when complete

“Wonderful! I check it off my checklist? You are getting really good at using our checklist to make sure we follow our steps!”

Where did the pig go in the story?



“Click the **right arrow motion block** and drag it to the work area.”



## Make the pig move

“Okay! Since I added the yellow start flag, the computer knows that we’re ready to start. Now, did our pig stay in one spot in the story? No! He left home and went down the path. We want our pig to go across the screen too. To do that, we need to tell our computer that we want the pig to move. We can make him go to the right by adding a ‘move right’ block. Hmm... is one arrow enough? Let’s try it.”

*Model debugging the algorithm by changing the number to 8 spaces if the pig doesn’t move all the way across the screen as needed.*

*Instruct students on how to change the number of “move right” blocks to make the pig move across the screen. This activity is similar to the [“Drive Across the City”](#) activity from the professional development modules.*

Did we get our pig to move?

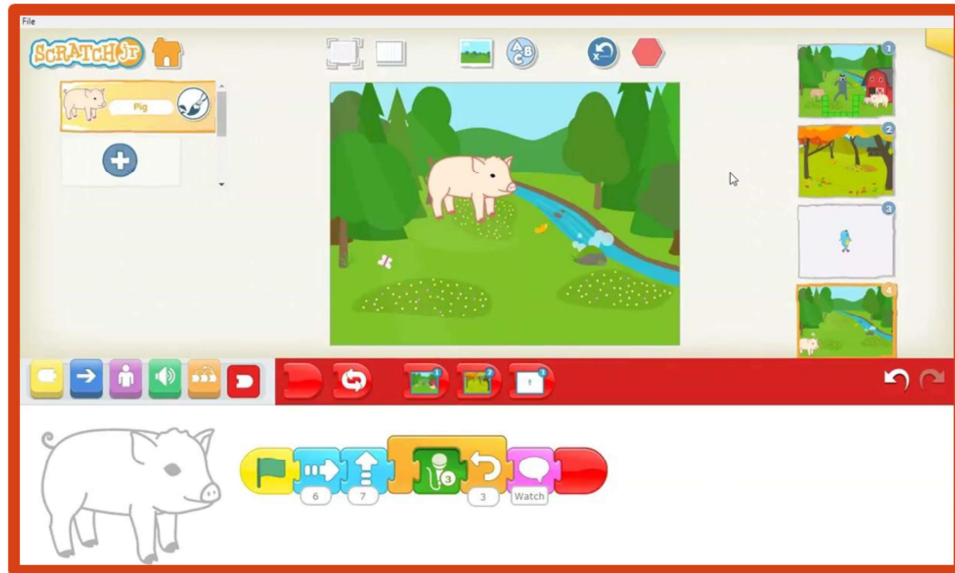


Add end block at the end

“At the end of our **algorithm**, we need to remember to add an ‘end block’ to tell the computer that our **algorithm** is finished!”



Let's look at ONE way to make the *beginning* of our ScratchJr algorithm.



## Look at one way to make the beginning of the ScratchJr algorithm

Okay! How does our pig look now? That's right! Our **algorithm** worked. The pig is leaving home and we've brought the beginning of our story to life on our screen."

"Okay, before you get started, I want to share a video with you that shows you how to add cool blocks in ScratchJr and how we make sure to use our checklist to work on our story. *Play [video](#).*)

Video link:

<https://drive.google.com/file/d/1hPW8wu51LHVtfs7qiBNZWPYOCx3JCbwJ/view>

# **INDEPENDENT PRACTICE**



Pre-Scratch, Jr Checklist

My name: \_\_\_\_\_ Did I do it? Check the box.

1 Draw or describe your main **character**. What does your character look like?



character

My character is \_\_\_\_\_

2 Draw or describe your **setting**. Where does your story take place?



setting

My story takes place \_\_\_\_\_

3 What are the **events** in your story? What happens in your story?



events

In my story, the character \_\_\_\_\_

“Now, it’s your turn. You are going to be able to try bringing the beginning of The Three Little Pigs to life in ScratchJr using our cool new checklist. Remember, we’re going to be using the same part of the story, but you are the one that gets to tell the computer what to do. Remember when we use our checklist for ScratchJr, we:

- 1) Do our pre-writing
- 2) Click on a new project
- 3) Choose a setting
- 4) Choose a character (sprite)
- 5) Choose the green flag to start our algorithm

“Start your **algorithm** and use the move left or move right blocks. Remember, you can debug the algorithm if the pig doesn’t go where you wanted him to go.”

**Note:** Depending on their familiarity with ScratchJr, you may decide to have students work in breakout pairs or groups for this activity, coding and debugging the algorithm together. If time permits, students can also work to create an algorithm for the middle and end of The Three Little Pigs.

## LET'S REVIEW



## ALGORITHM

### Review algorithms

- Ask students to explain what **algorithms** are to a friend or family member *and* think about another **algorithm** you may want to try.

“Great job, computer scientists! You were working to create algorithms in ScratchJr to make a part of our story come to life. Remember, we are learning to be computer scientists. We can use **algorithms** every day to give computers directions about what to do or to solve problems. Tonight, I want you to explain what **algorithms** are to a friend or family member *and* think about another **algorithm** you may want to try.