



Hour of Code Activity: Can I Make a Spooky Forest?

Overview

Children will use the ScratchJr programming app to make a program in which different animals move in a dark forest setting. Children are expected to have an intermediate knowledge level about programming and the ScratchJr app. With this activity, children will use a variety of ScratchJr features, including **adding text**, **changing text color**, **removing and adding characters**, running characters' programs simultaneously, incorporating action blocks such as **grow** and **shrink**, and utilizing the **number pad** to control how many times a character completes an action. Furthermore, "Can I Make a Spooky Forest?" will introduce children to more complex programming concepts such as the **repeat loop block** and the **start on tap block**. Putting all of these components together to create the "Can I Make a Spooky Forest?" program will enhance children's math, reasoning, and storytelling skills.

Goal

"Can I Make a Spooky Forest?" is an intermediate activity meant for children in kindergarten through second grade who have some prior experience with programming to learn about and master more advanced features of ScratchJr. Later, children can use the skills they have learned in doing this activity to create their own unique projects, or build upon what they created in the "Can I Make a Spooky Forest?" program. Through this activity and continued time with ScratchJr, students will have the opportunity to think creatively, become storytellers, and improve upon mathematical reasoning and sequencing skills.

Materials

- iPads Running iOS 7 or greater or Android tablets running Android 4.4 or greater
 - Enough for each student in class, or have students work in small groups
- The ScratchJr app
 - A free download from the Apple App Store (iPads) or Google Play (Android tablets)
- A large screen to project tablet projects onto for sharing, if available

Prep

- Download the free ScratchJr app onto each of your classroom iPads or Android tablets
- Become familiar with the ScratchJr app by exploring how-to videos and resources on www.ScratchJr.org
- Explore the sample projects embedded in the app to learn the basics of what each block can do

Intro (5 minutes)

With ScratchJr, your students can become storytellers, programmers, artists, and more. Spend some time introducing the class to the concepts they will be learning about with this intermediate ScratchJr activity. Here are a few introductory discussion questions to pose to the class before getting started with programming “Can I Make a Spooky Forest?”

- Can anyone remember some of the blocks you have used in the ScratchJr app?
- What sorts of programs have you made with ScratchJr before?
- How do you think programming and storytelling are similar? How are they different?

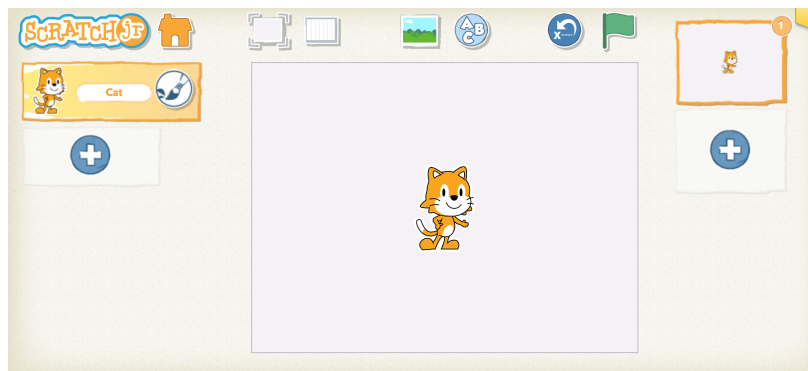
Getting Started (15 minutes)

Have your students take about 15 minutes exploring the basic features of the app.

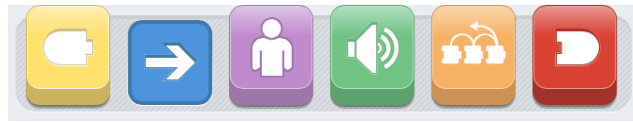
- First, open up the ScratchJr app from the home screen on the tablets
- Tap the **home** button on the left to start



- To create a new project, tap the **plus** sign under “My Projects”
- Use the **ScratchJr Kitten** as an example character to explore what different blocks can do



- Ask the class where they think the blocks should go? How do we use the blocks to make the kitten do what we tell it to?



- Make ScratchJr Kitten move by dragging down any **blue motion blocks** and tapping them:



- What happens when the **number** at the bottom of the block changes? How do we change it?



- Looking at the screen, what block do you think will be able to **start a program** besides the green flag?
- Use the **Start on Tap** block to begin snapping blocks together and make a sequence that begins when you tap on the characters



- Take a look at the other block categories besides motion. Introduce the students to the concept of **repeat loops**: what are they used for? What goes inside a loop? How can we control how many times a character does an action?



- Review the concept of adding a new character



- Look through the different background options



- Explore the more open-ended features of Scratch Jr, **adding text**, **drawing**, and **changing background colors**



Create (30 minutes)

Each student can now use his or her own iPad or Android tablet (or work together in groups) to create the activity “Can I Make a Spooky Forest?”

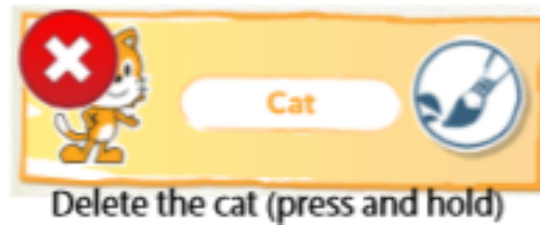
1. Choose the **Woods background** to get started



2. Choose new characters to include in your Spooky Forest, such as a frog, snake, and bat



a. Delete the ScratchJr Kitten character



3. Write a title for your program, and change the color of the letters so they are visible on the dark Spooky Forest background



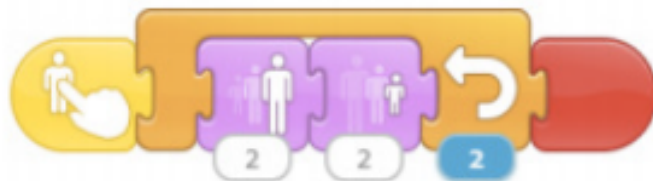
4. Once the background, characters, and text are added, your Spooky Forest scene should look like this:



5. Since there are 3 different characters, we need to make 3 different programs. We can make each character do a different action as part of our Spooky Forest! Remember, each program must have a beginning, middle, and end.
- Let's control when each character begins their program by starting with the **Start on Tap block**
 - To start with the frog, make sure the frog is highlighted in the character section of the screen
 - Let's make the frog leap high in the air two times by using the **hop blocks**



- Now let's create a program for the snake by making sure the snake is highlighted
 - We want the snake to **grow** and **shrink** to make this forest extra spooky
 - To make the snake grow and shrink two times, we can use the **repeat loop** instead of adding too many blocks. Whatever is inside this loop will repeat however many times you want—just tap the number under the arrow to change the amount using the **number pad**! Let's try two times for now.



- d. Finally, let's make the bat shake back and forth. To do this, we can use the **turn left** and **turn right motion blocks**.



6. Go ahead and tap each character and watch your Spooky Forest come to life!

Share (10 minutes)

Have students go around and share the programs that they made. Ask if anyone had any difficulties with the instructions, or if any aspect of "Can I Make a Spooky Forest?" was particularly confusing for them. What did they learn about programming and coding? Talk about what they could do to add to their program to make it unique.

What's Next?

When "Can I Make a Spooky Forest?" is completed, teachers are advised to encourage children to experiment with other ScratchJr features and extend the project into something personally meaningful. Extending the activity allows children to think creatively and make the project unique to their own lives. Potential ideas may include:

- Add more characters to the Spooky Forest setting
- Make the characters communicate with one another
- Create a game with the project
- Add more pages to continue with a "Spooky Forest" story