

# Lesson 17: Getting Loopy

## Summary

Through various interactive activities, students will learn about changing the numbers on motion blocks and how to use the repeat and repeat forever blocks. They will use each of these blocks in ScratchJr projects that they build along with their teacher and class. (The teacher can select the project involving loops, or s/he can select from three suggestions.)

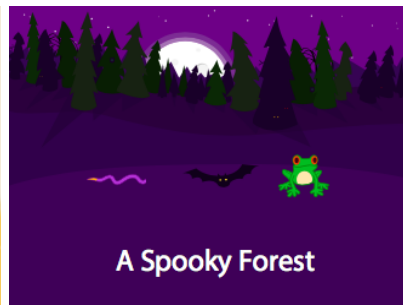
## Objectives

<u><i>Students will learn that:</i></u> <ul style="list-style-type: none"><li>• Numbers can be used on motion Blocks</li><li>• Numbers can reduce the number of blocks needed</li><li>• Programs can be repeated for a specified number of times</li><li>• Programs can be repeated forever</li></ul>	<u><i>Students will be able to:</i></u> <ul style="list-style-type: none"><li>• Use numbers on motion blocks to reduce the number of blocks needed</li><li>• Use the repeat and repeat forever blocks to make a program repeat</li></ul>
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## Programming Blocks Introduced

<ul style="list-style-type: none"><li>• Repeat</li><li>• Repeat Forever</li></ul>	 The image shows two ScratchJr programming blocks. On the left is a yellow 'Repeat' block with a white arrow icon and a small white box containing the number '4'. On the right is a red 'Repeat Forever' block with a white circular arrow icon.
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## Sample Programs



## Review (3 minutes, optional)

- What was your favorite part of our last lesson? What did you learn from it?
- What does the speed block do? What color is it?
- If you want to program more than one character at once, what block do you need to use?

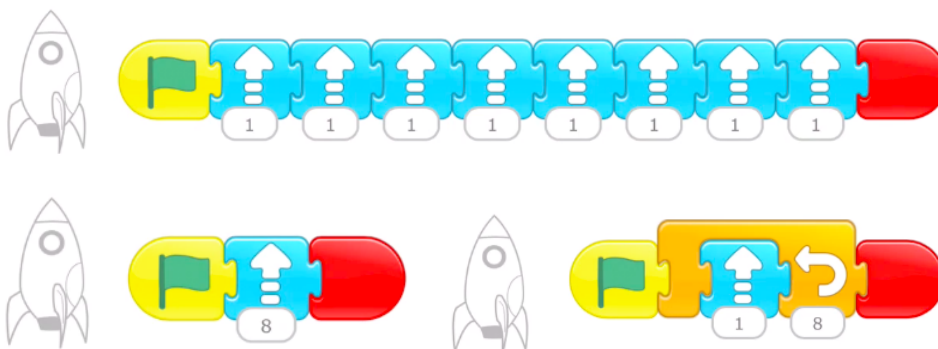
## Why Numbers? (5 minutes)

The teacher should ask for a student volunteer. Once a volunteer is chosen, the teacher should instruct the student privately to listen to the directions s/he gives, and jump the wrong number of times. For example, s/he should say to the student, "I want you to jump, jump, jump, jump, jump, jump, jump." The student should then jump the wrong number of times. The teacher should repeat the directions, and the student should again jump the wrong number of times. After doing this, the teacher should ask the class how this instruction could be clearer (e.g. by saying, "I want you to jump seven times). The teacher should then review the concept of putting a number under a programming block, instead of putting that same block down multiple times. S/he should demonstrate how to do this on the tablet.

## Why Repeat? (5-10 minutes)

The teacher should ask for a student volunteer. S/he should say to the student, "I want you to jump, tap your head, and clap your hands." The teacher should say this instruction to the student multiple times, and the student should continue to follow these directions. The teacher should then ask the class how this instruction could be clearer. The teacher should then explain the concept of the repeat and repeat forever blocks, and show students how to use them on the ScratchJr application.

Ask students how you could program a rocketship to take off (move upwards) by using three different programs. Show that three different scripts can all achieve the same result by having three different characters move at the same time.



## Sample Program



## Loopy Program (15-20 minutes)

Pass out tablets. Prompt students to create a program that uses one or both of the new repeat blocks (repeat forever, or repeat) that students learned in the lesson.

Students could create any project that you decide. Given the limited time in the lesson, students will probably not have sufficient time to design their own.

Three potential projects are from the ScratchJr cards:

- ["Can I Make My Characters Dance?"](#)
- ["Can I Make a Spooky Forest?"](#)
- ["Can I Make My Character Dribble a Basketball?"](#)



## Can I Make My Characters Dance?

### 1. Choose Background



### 2. Choose Characters



Delete the cat (press and hold)

### 3. Move Characters to Start Places



Position the characters by dragging them from the center of the screen.



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### 4. Make Programs



- Can you make other things happen when one character touches another? Try the disappear block!
- How can you use the speed block to change how the characters move?

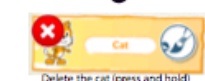


## Can I Make a Spooky Forest?

### 1. Choose Background



### 2. Choose Characters



Delete the cat (press and hold)

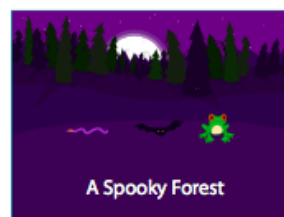
### 3. Write a Title and Change Color



A Spooky Forest



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### 4. Make Programs



- Can you make the bat spin all the way around in a circle?
- Add your own characters to make your own spooky scene!



## Can I Make My Character Dribble a Basketball?

### 1. Choose Background



New Background

OK

### 2. Choose Additional Character



New Character

OK


### 3. Move Characters to Start Places



Position the characters by dragging them from the center of the screen.

### 4. Make Programs





- Can you make the cat shoot the ball into the basket?

- What else can you make with two characters moving at the same time?

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## Wrap Up (5 minutes)

Prompt student to name and save their projects. Collect tablets, and pass out creative computing journals. Provide a reflection question and allow time for them to draw a picture and write a response.