

Lesson 19: Can You Repeat That?

Powerful Ideas of Computer Science	Algorithms, Control Structures, Modularity
Powerful Ideas of Literacy	Sequencing, Literary Devices
PTD	Content Creation
Palette of Virtues	Open-Mindedness, Curiosity
Children will be able to:	<ul style="list-style-type: none"> ● Identify repeating patterns. ● Use the Repeat Block in ScratchJr. ● Recognize one program can be represented using multiple approaches
Vocabulary:	<ul style="list-style-type: none"> ● Repeat: to do something again ● Pattern: something sorted in a repeating way
Teacher Preparation:	<ul style="list-style-type: none"> ● Read lesson plan. ● Have the Repeat Activity open and ready to project or print the slides. ● Print Lesson 19 Check for Understanding or pull up the Lesson 19 Check for Understanding Slides.
<p>Warm Up</p> <ul style="list-style-type: none"> ● The Wheels on the Bus (<i>Suggested Time: 5 minutes</i>) <ul style="list-style-type: none"> ○ Sing and dance the <i>Wheels on the Bus</i> as a class. <p style="text-align: center;"><i>The wheels on the bus go round and round, round and round, round and round.</i></p> <p style="text-align: center;"><i>The wheels on the bus go round and round, all through the town.</i></p> <p style="text-align: center;"><i>The wipers on the bus go Swish, swish, swish; Swish, swish, swish; Swish, swish, swish.</i></p> <p style="text-align: center;"><i>The wipers on the bus go Swish, swish, swish, all through the town.</i></p>	

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Opening Tech Circle

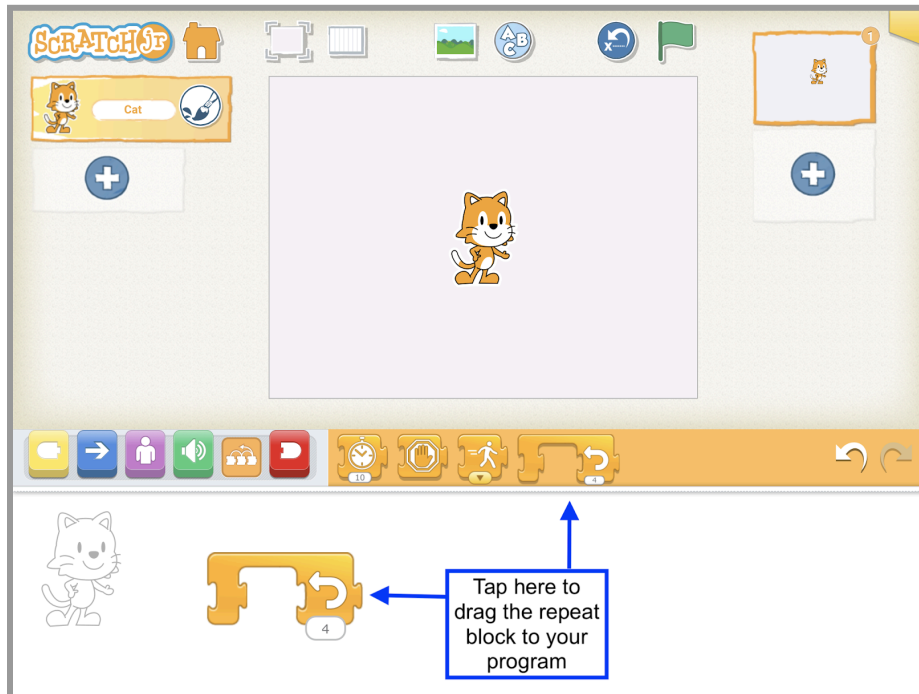
- **Patterns and Repeat Loops** (*Suggested Time: 5 minutes*)
 - After singing two verses of the song, discuss with the class the repetitions they observed in the song.
 - Ask the children what line we say over and over several times?
 - Talk about how we made a **pattern** and then repeated that same pattern over and over again, as needed in the lyrics!
 - Ask the children to imagine they're teaching their friend the words to the song. Is there an easier way to tell them all the words without saying the same words so many times?
 - Tell the children that there is! You can tell your friend to "Repeat" the line a certain number of times. Such as, "Repeat 'Round and round' 3 times!"

ScratchJr Time

Structure Challenge:

- **Introduce Repeat Block** (*Suggested Time: 10 minutes*)
 - Show children that just like with *Wheels on the Bus*, in ScratchJr you can either say every line one at a time, or you can say the steps once and then say "repeat!" **Repeat** means to do something again! Tell them that you can repeat in ScratchJr with the Repeat Block.
 - Just like a parameter, a Repeat Block can save us time and room. Just like with *Wheels on the Bus*, telling your friend to repeat the line is more efficient and saves time! An example for ScratchJr is if we want a character to hide and show 20 times, imagine how long that will take us to drag each block 20 times! Instead, we can use a Repeat Block, which will repeat the hide and show code for us 20

times.



- Repeat Loops allow all blocks within the loop to repeat. They repeat as many times as the number parameter (in the picture above the blocks will repeat 4 times).



- **Repeat Activity** (Suggested Time: 10 minutes)

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- Make the connection to literacy: there are different ways of communicating the same message such as making a call, texting, sending letters.
- Show a series of programs like the example one below and ask the children to all make a new program that does the same thing but uses a Repeat Block.

Lesson 19 Check for Understanding: Before starting free play, check your children’s understanding of the new concepts they’ve just learned. Read each question to the children and have the children respond with a thumbs up for “yes” or a thumbs down for “no.” Stop and re-explain concepts as needed.

Expressive Explorations:

- **Free Play** (*Suggested Time: 10 minutes*)
 - Encourage children to explore and use the new block they just learned.
 - Ask children to choose a classmate they have never worked with before and present their projects to each other. What was the most interesting thing you found in your partner’s project? Why? Can you compliment his or her work?

Closing Tech Circle

- **Share Creations** (*Suggested Time: 5 minutes*)
 - Children share about their free play experience. Use these guided prompts:
 - How did you use the Repeat Block in your program?
 - What do you like or find interesting about your peers’ projects and how they used the Repeat Block?
 - Do you have any questions about their projects?