

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.

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

New Programming Blocks

- Repeat
- Repeat forever

Materials/Resources: iPad for each student

*Schedule***Review (2.5 minutes):**

- 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? (10 minutes): The teacher should ask for a student volunteer. Once a volunteer is chosen, the teacher should tell the student to listen to the directions she gives, and jump the wrong number of times. For example, she 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 explain the concept of putting a number under a programming block, instead of putting that same block down multiple times. She should show how to do this on the iPad.

Materials: iPad for teacher

Why repeat? (7.5 minutes): The teacher should ask for a student volunteer. She 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.

Materials: iPad for teacher

Structured ScratchJr Programming (35 minutes):

1. The teacher should build a program(s) on her iPad that includes putting numbers under motion blocks and repeat blocks. Students must then follow along and build the program(s) the teacher made **(10 minutes)**.
2. The students should then build a program where they place numbers under the blocks **(5 minutes)**.
3. The students should then build a program where they use the repeat block **(10 minutes)**.
4. Have the students place the Scratch cat and a treasure chest on the screen. The students should then build a two blue block program moving the Scratch cat to the treasure chest. Then the students should build a two blue block program where they are moving the Scratch cat to the treasure chest and are using the repeat block with a number under it **(10 minutes)**.

Materials: iPad for each student

Wrap Up (5 minutes): Make sure that students save their programs. Collect materials.