

## Lesson 3.2 - 3.3: Dance Alone

An introduction to Scratch Jr.

### Objectives

In this lesson, students will:

- ❖ Create an algorithmic sequence in Scratch Jr.
- ❖ Be able to define what an algorithm is.
- ❖ Test and refine computational artifacts

### Agenda

1. Demonstration	5 mins
2. Exploration	10 mins
3. Algorithm	10 mins
4. Dance!	15 mins
5. Wrap Up & Reflections	5 mins

### Preparation

- [Download and install Scratch Jr.](#) on a tablet or as a chrome extension

### Resources & Links

- Scratch Blocks:  
<https://www.scratchjr.org/learn/blocks>
- [Google Slides](#)
- Scratch Jr. Interface:  
<https://www.scratchjr.org/learn/interface>



Credits:



## 1. Demonstration



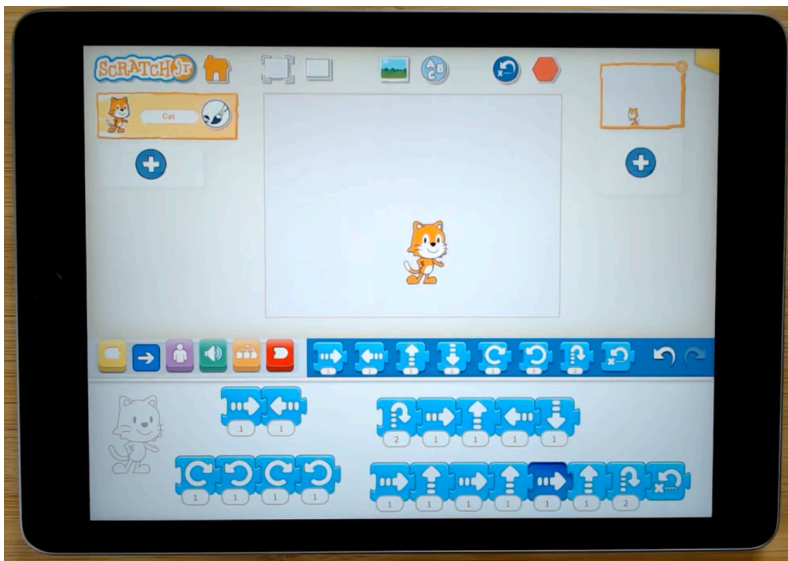
Demonstrate to students

- How to open Scratch Jr. on their device
- Introduce the Scratch Tic character and explain that today, we are going to give it instructions to make it dance (on iPad, it might be a cat)



- Display the video of a finished project:









[https://www.youtube.com/watch?time\\_continue=3&v=6jPNmlBmY7o](https://www.youtube.com/watch?time_continue=3&v=6jPNmlBmY7o)



<https://www.youtube.com/watch?v=KAD-RYeDNoE>

- Introduce the students to the motion blocks. Drag a few of them onto the programming area and ask students what they think each block might do.



<p><b>Move Right</b></p> <hr/>  <p>Moves the character a specified number of grid squares to the right.</p>	<p><b>Move Left</b></p> <hr/>  <p>Moves the character a specified number of grid squares to the left.</p>
<p><b>Move Up</b></p> <hr/>  <p>Moves the character a specified number of grid squares up.</p>	<p><b>Move Down</b></p> <hr/>  <p>Moves the character a specified number of grid squares down.</p>
<p><b>Turn Right</b></p> <hr/>  <p>Rotates the character clockwise a specified amount. Turn 12 for a full rotation.</p>	<p><b>Turn Left</b></p> <hr/>  <p>Rotates the character counterclockwise a specified amount. Turn 12 for a full rotation.</p>
<p><b>Hop</b></p> <hr/>  <p>Moves the character up a specified number of grid squares and then down again.</p>	<p><b>Go Home</b></p> <hr/>  <p>Resets the character's location to its starting position. (To set a new starting position, drag the character to the location).</p>

From <https://www.scratchjr.org/learn/blocks>

## 2. Exploration

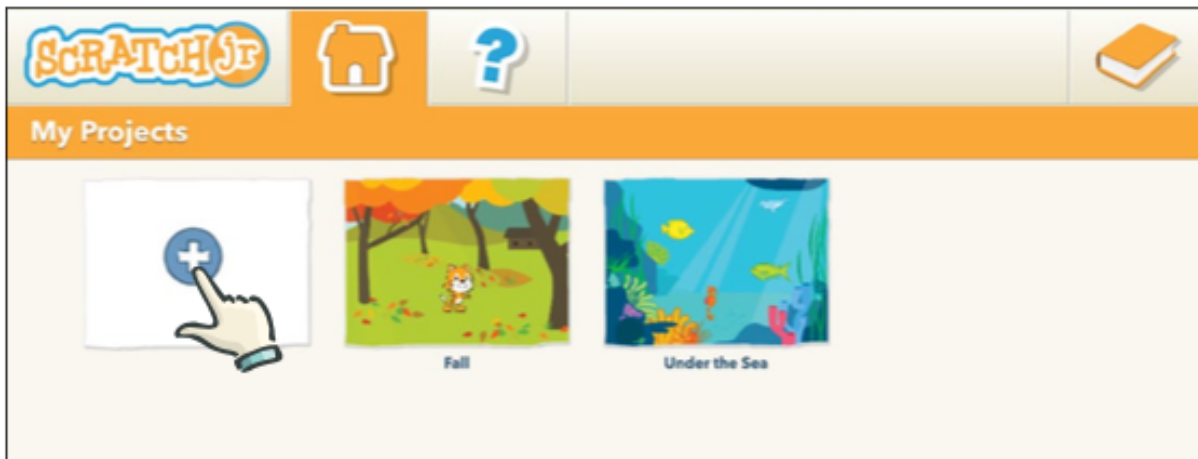
Students get some time to create a project and explore the motion blocks. They can work alone or in groups. Encourage the students in their exploration

Step 1: Open the Scratch Jr. Application

Step 2: Click on the Home button



Step 3: Tap the + sign to make a new project



Step 4: Drag some blocks and click on them to see what they do



Regroup the class and ask students what they have discovered.

### 3. Algorithm

An algorithm is a set of instructions to complete a task. Examples of day-to-day algorithms are

- A recipe to make a cake
- Instructions on how to brush your teeth

So far, you might have experimented with some motion blocks like going forward by one step or turning right. We can snap blocks together to make it a sequence.

You can show some samples of sequences and ask the students to predict where the character will do.

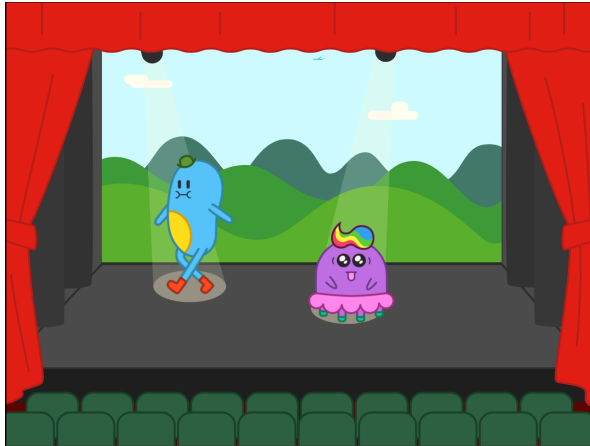
### 4. Dance!

Students can work on their program to create algorithmic sequences in their code to make Tick dance.

### 5. Loopy Dance!

Demonstrate an example of a project with a little more complexity added:

<https://youtu.be/KAD-RYeDNoE>



#### A. Green Flag

Instead of selecting the blocks to trigger the code to run, students can use the Green Flag block from the Triggering Blocks

#### TRIGGERING BLOCKS

##### Start on Green Flag



Starts the script when the Green Flag is tapped.

They can try adding the green flag block at the beginning of their script:



#### B. Loop

If you have found a set of instructions that you like for a dance move, wouldn't be cool to repeat this dance move several times? We can use the Repeat Block to wrap around the instructions that we would like to repeat

**CONTROL BLOCKS**

**Wait**



Pauses the script for a specified amount of time (in tenths of seconds).

**Stop**



Stops all the characters' scripts.

**Set Speed**



Changes the rate at which certain blocks are run.

**Repeat**



Runs the blocks inside a specified number of times.




Give some time to students to explore different moves and repeat.

Extensions:

- Can you create a choreography with different moves that repeat?
- Select a background
- Add another character so it's not a dance-alone party anymore.

**6. Wrap-up and Reflections**

 <b>Reflection Points:</b>
<ul style="list-style-type: none"> <li>● What are 3 different ways you could change a sprite's algorithm?</li> <li>● What happens if you change the order of the blocks?</li> <li>● Can you think of a day-to-day algorithm?</li> <li>● Assessment on Appendix A</li> </ul>

# Appendix A

Link each instruction with its correct label



- Turn Left**
- Move Right**
- Hop**
- Move Up**
- Turn Right**
- Go Home**
- Move Down**
- Move Left**

