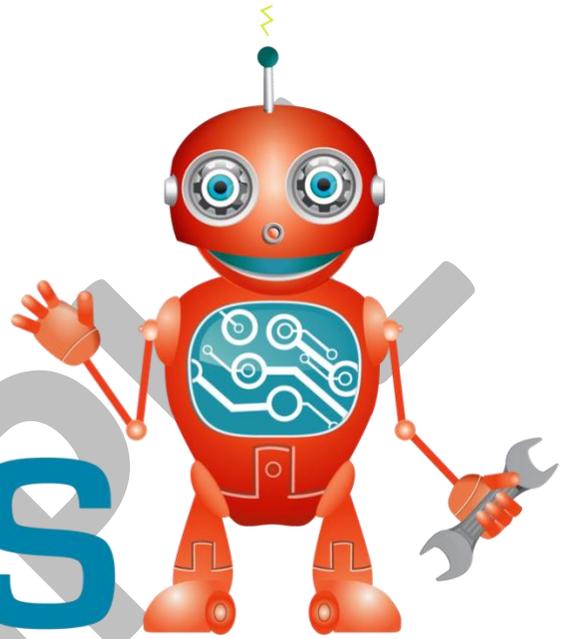


STEM MINDS



Science Technology Engineering Math

**THIS DOCUMENT IS INTENDED FOR SAMPLE PURPOSES ONLY AND
SOME SECTIONS MAY BE REDACTED TO PROTECT THE COPYRIGHT.
PLEASE VISIT WWW.STEMMINDS.COM TO PURCHASE THE FULL UNIT**

STEM MINDS “CODING WITH SCRATCH JR” UNIT COPYRIGHT

© 2020 by STEM Minds

This document is copyrighted material. Your single-user license gives you permission to use and reproduce these materials for your classroom only.

This license grants you permission to do the following:

- Keep electronic or paper copies of this document in multiple places for your own or student use on your home computer, school computer, personal devices, and on student-accessible devices
- Make photocopies of individual pages for classroom use
- Copy and paste text from this document into your own lesson plans for personal use
- Provide electronic access to students for the purposes of classroom instruction

Reproducing or sharing this document or any of the materials in this unit with other users – including electronic versions – is considered a violation of copyright. Before sharing this with other teachers or individuals, please purchase additional user licenses. Violation of copyright is strictly prohibited and may result in legal action. Thank you for respecting the time and effort it took to create this product.

If you have any questions or issues with this product, please contact us at

info@stemminds.com

DAY 2: GETTING STARTED WITH SCRATCH JR

Required Materials

- iPads/tablets with the Scratch Jr app downloaded
- Storyboard planner (see Appendix B) and drawing materials
- Tech Tracker (see Appendix C)

Learning Goals

We are learning to code with Scratch Jr.

- I can start, rename, save, and re-open my project
- I can use basic start blocks, movement blocks, and speech blocks in my code
- I can add a background to my project
- I can explain sequence in my own words

Minds On (10 Minutes)

Where possible, have all students join the teacher in community circle/on the carpet. When all students are seated, ask students to quickly summarize what they remember about coding from yesterday. Ensure that students are making connections with the idea that “coding is the language that computers speak”, that we need to learn to code if we want to “speak” with computers, and that coding requires us to make sure that our instructions are very clear.

Next, ask students to share their ideas for what the word “sequence” means. You can further prompt them by asking them what it means “to put something in sequence”. Some students may be familiar with this word and some students may not be.

When students have shared their ideas, you can explain that sequence very simply means to put something in order. You may wish to show a picture or write on the board/a piece of chart paper something that is out of sequence (for example, a group of numbers written as “3, 1, 5, 2, 4”). To put them in sequence would mean to put them in the correct order (e.g. “1, 2, 3, 4, 5”).

Sequence is one of the most important concepts when it comes to coding. No matter what coding language you are working with, the idea of sequence stays the same. Very simply, sequence in coding means that the computer will read your code in the exact order that it is written (usually from top to bottom, although in Scratch Jr our code is actually written/read from left to right).

In order to have our code work the way we want it to, we need to make sure that our instructions are appearing in the right order!

Show students the following image and ask them if this code is written in the correct sequence.

[IMAGE REDACTED FOR SAMPLE]

Students should be able to identify that the code is not in the correct sequence. Using Think, Pair, Share or another discussion strategy, ask students to describe:

- a) How this code would ACTUALLY work (i.e. where would the robot actually end up)?
- b) How they can fix the code so that the robot ends up in the right place?

Working On It (25 Minutes)

In today's lesson, students will only be working on their first scene and just their first character. They will be taught how to add a background and code simple actions such as making the character move and speak.



When students are done watching the video, they can get started on their project. Be sure to circulate throughout the class while students are working in order to provide guidance as well as mediate any conflicts/frustration.

Important Notes:

- For this first day, students have not yet been taught how to make their character anything other than the cat that is the default character. Creating and changing characters will be part of Lesson 3. For today, encourage students to just get their actions programmed for the character; they can change what the characters look like the next time.
- It is **STRONGLY** advised that you personally confirm with each student that they have renamed their project with their name. This will make it much easier for students to re-open their projects in future lessons. This would also be a great time to fill out your Tech Tracker (see Appendix C) to ensure students can easily find their device again in the next lesson.
- Be sure to give students a 5 minute and 1 minute warning before their time to work on their project is wrapping up so students can manage their time effectively.

Consolidation (5 - 10 Minutes)

Depending on your group of students, you may want to provide 3-5 minutes for students to get cleaned up, devices put away, and to rejoin you in community circle/on the carpet or to return to their seats.

When students have gathered, use Think, Pair, Share or another discussion strategy for students to discuss:

- a) What challenges they faced today and how they overcame them
- b) What they are planning to do as next steps for their project.
- c) You may also ask students to discuss how the idea of “sequence” came up in their projects; when did they have to think about what order their code needed to appear in? Did they make any mistakes with their sequence?