Coding with Scratch Jr.

Course Name: Instructions, sequencing, and an introduction to ScratchJr/Coding
Time Frame (in minutes): 60 minutes
Unit/Theme: Coding with ScratchJr
Grade Level: 2nd

CONTENT AND SKILLS
Learning Objectives: ● Appropriate IPAD use ● The concept of programming and coding ● The concept of instructions ● The concept of sequencing ● The basic features of the ScratchJr interface
Essential Questions (optional): ●
Students I can statements . . . **General:** ● Give specific instructions ● Sequence instructions to achieve simple objectives ● Identify device rules **ScratchJr :** ● Move blocks into the scripting area ● Use blocks in scripting area as buttons ● Select a block category ● Save a project **How will you meet the needs of SWD and ELL/MLL students?** ● **Students will have access to visuals for instructions and additional adult presence to support learners.**

Programming Blocks Introduced in this Lesson

- Right
- Left
- Up
- Down
- Bigger
- Smaller
- Visible
- Invisible

Content Standards List all standards

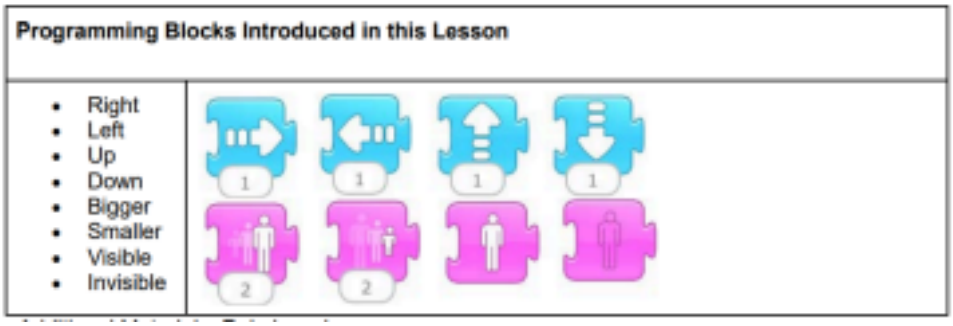
NYS Computer Science and Digital Fluency Standards List all standards that authentically align
● 2-3.CT.1- create a model of an object or computational process in order to identify patterns and essential elements of the object or process. ● 2-3.CT. 4- Identify multiple ways that the same problem could be decomposed into smaller steps. ● 2-3.CT.5- Identify the essential details needed to perform a general task in different settings or situations. ● 2-3.CT.6- Create two or more algorithms for the same task. ● 2-3.IC.2- Compare and explain rules related to computing technologies and digital information. ● 2-3.IC.3- Discuss and explain how computing technology can be used in society and the world. ● 2-3.IC.7- Identify a diverse range of roles and skills in computer science. ● 2-3.NSD.3- Describe and attempt troubleshooting steps to solve a simple technology problem.
NYS SEL BENCHMARKS https://www.p12.nysed.gov/sss/documents/SELBenchmarks2022.pdf ● 1B.1a. Identify likes, dislikes, and personal strengths. ● 1C.1a. Identify and set short-term personal or academic goals. ● 2A.1a. Recognize that others may experience situations differently from them. ● 2D.1a. Identify opportunities, challenges, and conflicts commonly experienced by themselves and their peers. ● 3A.1b. Create, understand, and practice shared classroom expectations that support the wellbeing of self and others.

INSTRUCTIONAL PLAN List the steps of the lesson, including instructions for the students. Add and highlight Standard Indicator next to activity that aligns

- SUMMARY: Children will be introduced to two concepts that will create a foundation for understanding programming: instructions and sequencing and device safety/rules. Through various interactive activities, students will acquire a basic understanding of these two concepts and the rules for devices/ internet safety. The lesson will conclude with an introduction to the Scratch Jr interface.
- The teacher will first explain that today the students will be learning to code with a special program- ScratchJr.
- The teacher will prompt students to ask, "What is coding?"
  If the students are not aware of what coding is, the teacher will explain that coding is the language of the computer. Coding is how people communicate with technology.
  The teacher will continue the class discussion by asking
  Can you think of any jobs that may use coding?
  The students will discuss ideas about people who are video game designers, engineers, etc. As needed, the teacher may contribute comments about how these

jobs may use coding or even give examples of careers that students are not familiar with. 2-3.IC.3, 2-3.IC.7

- Introduction: The lesson should begin with the teacher introducing him/herself to the class. The teacher should explain why s/he would like to teach the students about programming. Before starting a discussion about programming, the teacher will remind students of internet/ device safety rules. (device rules) Students will think pair share the rules for devices. After S/he should briefly ask students what they know about programming. Students will share out; the teacher will link iPad to the smartboard device.
- Simon Says (10-12 minutes): The teacher should play Simon Says with the class. S/he should discuss how this activity is dependent on properly being able to give and follow instructions. S/he should then explain how providing clear instructions is critical to computer programming. 2-3.CT.1
- The teacher should hand out the iPads to the children and show them how to begin a new project in Scratch Jr. Everyone in the class should watch the teacher as s/he moves a motion block (right, left, up, down) and creates an algorithm that is shown in the scripting area and presses the block to make the Scratch cat move. The children should duplicate this task. The teacher should request that students raise their hands when they are finished with this task. Do this for each motion block. Do the same for the resize blocks (bigger and smaller) and visibility blocks. 2-3.CT.4, 2-3.CT.5



- The teacher should encourage students to explore the application by creating their own algorithms in the scripting area and seeing where the cat moves. Students will be encouraged to create two or more algorithms for the same task. 2-3.CT.6
- The teacher will explain to students that if their cat character does not move the way that they attempted to make it move, based on the algorithm that they programmed, then they will need to troubleshoot or attempt to fix the 'glitch" and try again. 2-3.NSD.3

The students will share their project/algorithms with their teacher and classmates explaining how and why they wrote their algorithms that way. 2-3.CT.4.

- The teacher should demonstrate how to save a project. Every child should save their project. The teacher should provide students with a brief explanation of what will occur during the next lesson. Collect iPads.

MATERIALS / RESOURCES
Add additional resources needed for this lesson such as instructional technology templates, images, videos, etc. *Including Instructional Technology Tools*