Coding with CUBETTO Robots

Course Name: Elementary Library **Time Frame (in minutes):** 50 **Unit/Theme:** Coding with Cubetto robots **Grade Level: K-1**

CONTENT AND SKILLS
Learning Objectives: ● Students will create a program for Cubetto to follow ● Students will debug a program
Essential Questions (optional): ●
Student I can statements . . . ● I can create a program for Cubetto to follow ● I can debug a program
How will you meet the needs of SWD and ELL/MLL students? ● Picture task cards will be given to all students
Content Standards List all standards
❖ . IFC – Standard 1.2: Information-fluent learners experience, experiment, and use a design process to discover creative solutions to authentic problems, form personal understandings, and propose original ideas. ➢ Engages actively with a small group in trying out a solution, looking at the results, and making changes to improve the results
NYS Computer Science and Digital Fluency Standards List all standards that authentically align
● K-1.CT.4 ● K-1.CT.9 Identify and fix (debug) errors within a simple algorithm.. ● K-1.NSD.1 Identify ways people provide input and get output from computing devices.
NYS SEL BENCHMARKS https://www.p12.nysed.gov/sss/documents/SELBenchmarks2022.pdf
●

INSTRUCTIONAL PLAN
List the steps of the lesson, including instructions for the students.

Add and highlight Standard Indicator next to activity that aligns

This lesson is a follow-up to a previous lesson introducing Cubetto and programming concepts. We read a non-fiction book about robots, learned that robots have a computer inside them and that humans make robots perform tasks through computer programming. We coded Cubetto as a whole group.

Review:

Last week we started learning about Cubetto. What do you remember? How do we make the robot move? (K-1.NSD.1)

Review all the components: robot, code tiles, map, remote board

Today everyone will get a turn programming Cubetto!

Concept and Skill Development:

This lesson utilizes the "I show, We do, You do" strategy to gradually release responsibility to learners.

Today we are going to practice giving Cubetto a set of directions to move him from one place to another. When we give a Cubetto a set of directions we are making a program for it to follow. The language we use to give the Cubetto directions is called computer code.

Demonstrate how to create a program to move from one square to another on the map. Use the *think aloud* strategy to and show them the path you want the robot to take (tap the squares on the map..."I want Cubetto to move to this square, then turn, then go to this square. I need a forward code, a turn code, and another forward code.") (K-1.CT.4) Let them know that it is OK to make a mistake in the program; we just need to debug it. Demonstrate the debugging process. Keep the codes that worked and replace the ones that did not work. (K-1.CT.9)

Guided Practice:

Try another task card (Cubetto Challenges) and ask for student input about which tiles to use. If needed, debug the program.

Independent Practice:

Assign students to groups. Each group will have a robot, remote, map, code tiles, and task cards. They will work in groups to complete as many task cards as possible. Circulate to assist students as needed.

MATERIALS / RESOURCES Add additional resources needed for this lesson such as instructional technology templates, images, videos, etc. *Including Instructional Technology Tools*
● Set of Cubetto robots (https://www.primotoys.com/) including maps ● Cubetto challenges power point printed for each group