Coding Lesson Plan

Course Name: Classroom District Wide Event **Time Frame:** ~ 1 hours +
Unit/Theme: Winter S.T.E.A.M Olympics **Grade Level:** 2-3

CONTENT AND SKILLS
Learning Objectives: • Students create a code to complete a basketball task using a variety of codes (loops) to be efficient and precise.
Essential Questions (optional): • How can I use code in a highly efficient and precise way?
Students I can statements . . . • I can create a model of a computational process and identify patterns and essential elements of the process.
How will you meet the needs of SWD and ENL students? • Differentiated coding courses from K-5 • RAZ Kids Texts are available in text read format. Students can record their reading to improve fluency and listen to themselves reading. • Brainpopjr videos include subtitles.
Content Standards List all standards and how learners will meet the standard
• 2R1: Develop and answer questions to demonstrate an understanding of key ideas and details in a text. (RI&RL) • 2R3: In literary texts, describe how characters respond to major events and challenges. (RL) • NY-2.OA.1 → NY-3.OA.8 Represent problems using equations or expressions with a letter standing for the unknown quantity.
NYS Computer Science and Digital Fluency Standards List all standards and how learners will meet the standard
• 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.3 Present the same data in multiple visual formats in order to tell a story about the data. • 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.7 Name/label key pieces of information in a set of instructions, noting whether each name/label refers to a fixed or changing value.
- 2-3.CT.8 Identify steps within a task that should only be carried out under certain precise conditions.
- 2-3.CT.9 Identify and debug errors within an algorithm or program that includes sequencing or repetition.

CASEL COMPETENCIES and/or NYS SEL BENCHMARKS

- 1A.1b. Demonstrate control of impulsive behavior
- 1B.1a. Describe one's likes, dislikes, needs, wants, strengths, challenges, and opinions.
- 1C.1b. Identify goals for personal behavior progress, achievement, or success
- 3B.1a. Identify a range of decisions that students make at school and at home.

INSTRUCTIONAL PLAN

List the steps of the lesson, including instructions for the students.
How will you make sure this lesson is culturally responsive?

Optional to build context and understanding:
The following tasks align to standards: 2-3.CT.1, 2-3.CT.3, 2-3.CT.4, 2-3.CT.5, 2-3.CT.7, 2-3.CT.8, 2-3.CT.9 through watching, reading, and interacting.

- *Brainpop Jr. - Computational Thinking, Computer Programming, Loops approx. 5-minute videos to introduce concepts of coding and computational thinking from simple to more complex*
- *Read "Coding Camp" RAZ kids Level N*
- *Coding Math Worksheets include coding, cryptology, and more. (2nd and 3rd grade)* 2-3.CT.1
- For younger students or if you want your students to have a foundational coding experience before trying the game below, there is a variety of options for grades K- 5. These are mini-courses that teach the basics, and you can differentiate which parts you use to meet the needs of your students. https://code.org/educate/curriculum/csf
- Got to Coding.org link to code a game https://studio.code.org/s/sports/lessons/1/levels/1

BACKGROUND OR PRIOR KNOWLEDGE

- "Coding Camp" Vocabulary/Background - animation, crashing, programming, files, coding, arcade game
- Optional use of foundational coding courses K-5

INSTRUCTIONAL TECHNOLOGY INTEGRATION

- Retrieve Book from folder in RAZ kids, use annotation, text read and voice recording tools.
- Use Code.org courses to build skills

MATERIALS / RESOURCES

Add additional resources needed for this lesson such as templates, images, videos, etc.

- "Coding Camp" RAZ kids
- Foundational Coding Courses
- 3rd Grade Coding/Math Worksheet
- 2nd Grade Coding/Math Worksheet
- Brainpopjr - Technology