Direct Instruction Summary

Intro to Color Codes 03: Special Moves and Win

1. Introduction
Students will explore the Special Moves and the Win/Exit Color Codes.

2. Use Color Codes to Complete the Pathways
There are three pathways and a Color Codes Key. Note there are 5 places to start. Students add the Color Codes; Tornado on the first line, Zigzag on the second line and the Win/Exit codes on the bottom T-line. Then, finish the lines with black marker.

Tips:
Most Color Codes need at least an inch of black line on either side of the code. The Special Moves codes need more. Spin/Tornado need 1.5 inches and Zigzag/Backwalk need 2.5 inches.
Special Moves are asymmetric. The action depends on the direction the bot is traveling when it reads the code.

3. Tornado
Run the bot from Start 1. Note the action. Tornado starts spinning slowly and gets faster.

4. Spin
Run the bot from Start 2. Note the action. Spin goes around two full times at a consistent speed.

5. Zigzag
Run the bot from Start 3. Note the action. Zigzag goes right and left in a forward direction.

6. Backwalk
Run the bot from Start 4. Note the action. Backwalk turns the bot around and goes right and left backwards in the same direction it was originally traveling.

7. Win/Exit
Run the bot from Start 5. Note the action. At the intersection the bot will randomly choose to turn right or left. Repeat 5 times and keep track of the direction the bot chooses.

8. Win/Exit Play Again and Win/Exit Game Over
The Win/Exit Play Again should spin and make a happy sound. The Win/Exit Game Over should spin and make a sad sound.

Debug if necessary.

9. Lesson Wrap-Up
Have students explain to a partner, in writing, or in a group discussion:
1. the Color Codes they used and where they are placed on a line
2. a problem they encountered and how they attempted to solve it
3. how their bot behaved based on the Color Codes used and if the bot demonstrated the correct outcome
4. which Color Codes were asymmetric and how they knew

10. Extensions
The Special Moves Color Codes and Win/Exit Color Codes can be used to show Ozobot completing human-like actions or showing human-like emotions. Have students write a sentence about Ozobot acting like a human. Then, use lines and Color Codes to program Ozobot to demonstrate the sentence in action.