Direct Instruction Summary

Intro to Ozobot Blockly 02: Sequences (Gr 2-5)

1. Introduction

Give examples of sequences in real life. For example, putting on shoes and socks. Most people put on their socks first. In computer science, a sequence is an ordered set of instructions. Most of the time, the order of the codes is important. Sequence can also be used as a verb, or action word, which means to arrange instructions in a certain order.

2. Movement Blocks

Students will work in Ozobot Blockly Level 2. Look at all the blocks in the Movement category. Have students add a small circle block, a move block, and a big circle block to the workspace.

3. Adjust Blocks

Review drop-down options for each block. Adjust the small circle to slow, forward, to the right for 4 seconds. Adjust the move block to backward, 5 steps, fast. And adjust the big circle block to go backward, to the left, for 3 seconds. Connect and run the program.

4. Light Effects

Review the Light Effects blocks. Ask students to imagine what each block might program Ozobot to do. Add rainbow, police car lights, and fireworks blocks to the workspace.

5. Put Light Effects in the Sequence

Light Effects will go in the sequence after each Movement block. The bot should move then do a light effect, three times. The sequence will be: small circle, rainbow lights, move backward, perform police lights, move in a big circle, and fireworks.

6. Sounds

Click on the Sounds category. Drag three blocks to the workspace: play happy, say direction, and say number. Adjust the drop-downs to play surprised, say direction back, and say number 10.

7. Timing and Completing the Sequence

Add a Timing block to the workspace, the wait block. Adjust the drop-down to 3 seconds. Have student listen to the following story to determine the sequence of their blocks. You may need to read the story more than once.

One day Ozobot was slowly looking around and saw a rainbow that was so beautiful it surprised Ozobot. Moving quickly backwards talking to itself, Ozobot saw some police

car lights down the street. Pausing to look, it quickly circled back the other way, only to see some fireworks where the rainbow used to be. The fireworks were so lovely that Ozobot gave the display a 10.

The blocks should be in the following sequence:
small circle
rainbow
play surprised
move backward
say back
police car lights
wait
big circle backward
fireworks
say 10

8. Run Your bot with the Story

Once students are satisfied that their sequence matches the sequence of the story, read the story again and have students run their Ozobots with the story. You could also have a student read the story, or work in groups and have one student read, while the other students run their bots, then switch readers.

9. Lesson Wrap-Up

Have student discuss in pairs or as a group:
1. Tell someone else what a sequence is in computer science?
2. Do you have three Movement blocks, three Sound blocks, three Light Effects blocks, and one Timing block in your sequence?
3. How did you adjust the dropdowns according to the story?
4. Did your Ozobot perform the program in the same sequence as the events in the story?