

Direct Instruction Summary

Intro to Color Codes 06: Timers



1. Introduction

First, students will program Ozobot to run for 30 seconds along two different race tracks at Slow and Turbo Speeds. Next, students will program Ozobot to run for 30 seconds along two more race tracks but it will pause three times as it completes a lap. Students will compare and contrast the number of laps Ozobot completes for each track.

2. Timer On (30sec. to stop)

On Activity Sheet 1, on the line after Start, add the Timer On (30 sec) Color Code, which will program Ozobot to run on a 30-second timer. When the 30 second timer is up, Ozobot will turn off.

3. Use Color Codes to Program Speed

Look at tracks 1 and 2 below the start. Have students use their Color Code markers to put the Slow code, R, BK, R in the empty boxes on track 1 and the Turbo code B, G, B in the empty boxes on track 2.

4. Run Your Bot on Track 1

Put the bot on start. After the bot passes the Timer On code, pick the bot up and place it next to the star on track 1 facing the Slow Color Code. Watch to see how many laps the bot completes before the timer is up and it turns off. Every time Ozobot passes the checkered flag, it has completed one lap. Write the total number of laps completed inside the track.

5. Run Your Bot on Track 2

Put the bot on start. After the bot passes the Timer On code, pick the bot up and place it next to the star on track 2 facing the Turbo code. Watch to see how many laps the bot completes before the timer is up and it turns off. Every time Ozobot passes the checkered flag, it has completed one lap. Write the total number of laps completed inside the track.

6. Program the 30 Second Timer, Slow, and Turbo codes

On Activity Sheet 2, instruct students to use their Color Code markers to put in the Timer On Color Code on the first line after the start, the Slow Color Code below the star on track 3, and the Turbo Color Code below the star on track 4.

Direct Instruction Summary

Intro to Color Codes 06: Timers



7. Pause (3 sec.)

Tracks 3 and 4 have some additional missing Color Codes to program Ozobot to pause for 3 seconds on the top, on the bottom, and on the left of the track. Have students add the Pause code, R, B, R in the empty boxes around both tracks.

8. Run Your Bot on Track 3

Put the bot on start. After the bot passes the Timer On code, pick the bot up and place it next to the star on track 3 facing the Slow Color Code. Every time Ozobot passes the checkered flag, it has completed one lap. Write the total number of laps completed inside the track.

9. Run Your Bot on Track 4

Put the bot on start. After the bot passes the Timer On code, pick the bot up and place it next to the star on track 4 facing the Turbo Color Code. Every time Ozobot passes the checkered flag, it has completed one lap. Write the total number of laps completed inside the track.

10. Lesson Wrap-Up

Have students explain to a partner, in writing, or in a group discussion:

1. the Color Codes they used and why
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. why the bot completed fewer laps on tracks 3 and 4 than it completed on tracks 1 and 2