

5

Grade



ozobot[®]

Teacher Guide

Introduction to Color Codes

Name

Room/Class

Getting Started

Ozobot will randomly choose which way to go when it comes to an intersection.

Random means there is no way to predict an outcome.

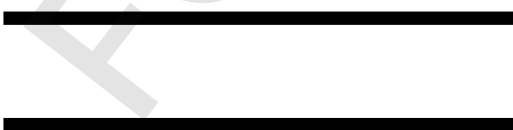
Dice are random because you can't predict what number you are going to roll each time and they do not follow a pattern. First, you could roll the number four. Next, you could roll the number two. A friend could use the same dice and roll completely different numbers than you from 1-6.

An intersection is where two or more lines cross over each other. Intersecting lines share a common point.

Draw two intersecting lines:

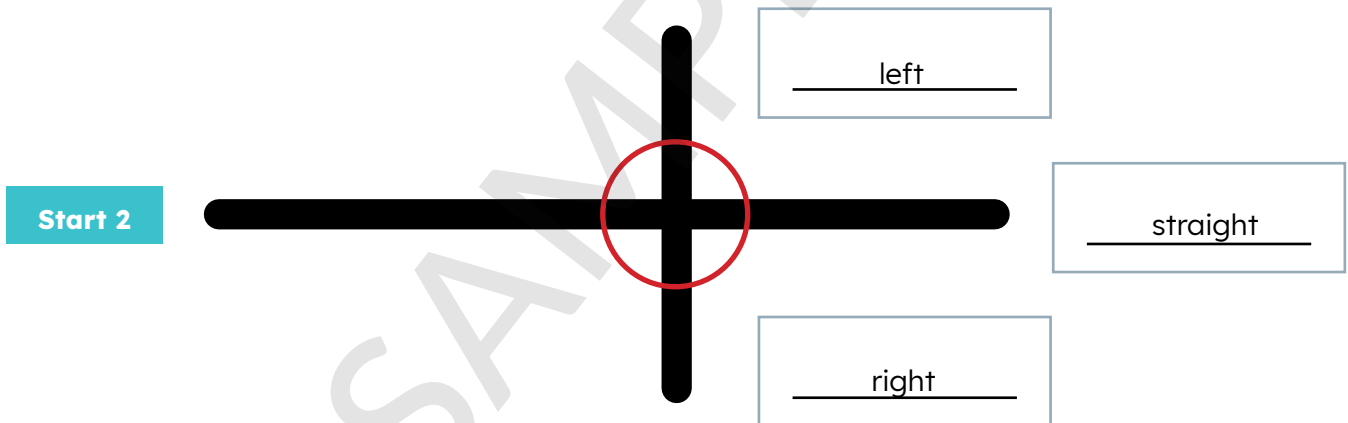
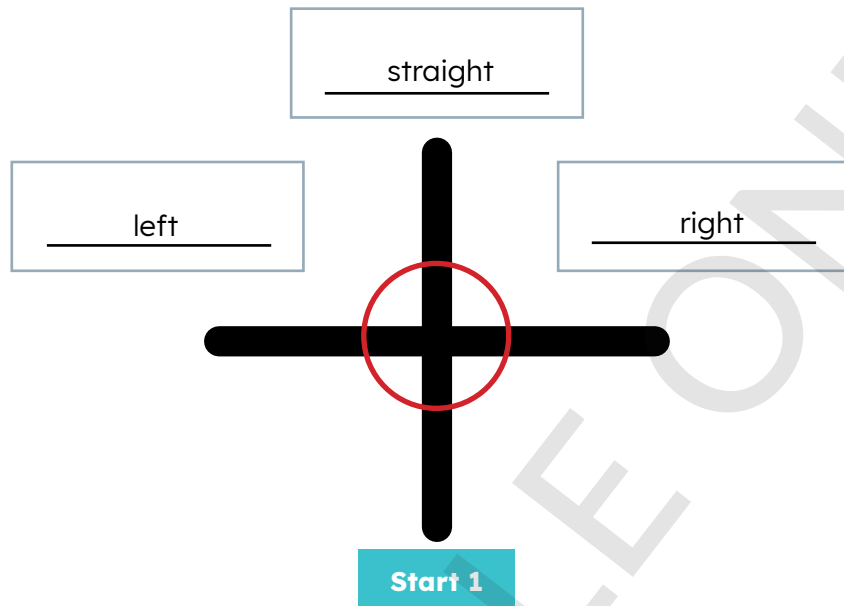


Draw two parallel lines or lines that do not intersect:



| Introduction to Color Codes 04: Direction

Circle the intersections below. Then, label the directions Ozobot can move in the boxes:



Time to Explore

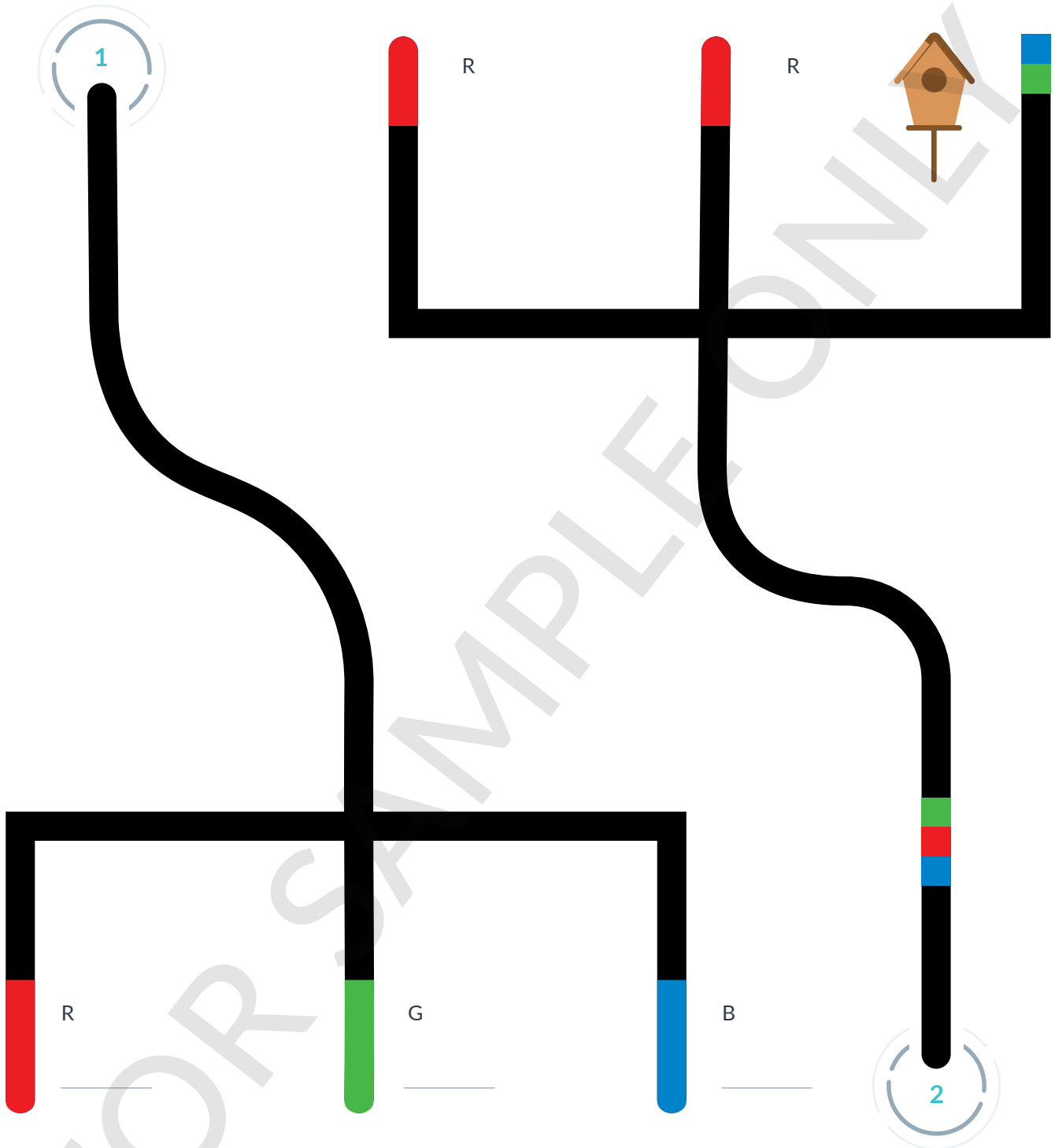
In this lesson, you will draw Color Codes to program your bot to turn in different directions.






To open the lesson video:
Use your laptop or tablet to scan the QR code
OR
Go to <https://ozo.bot/cc4>

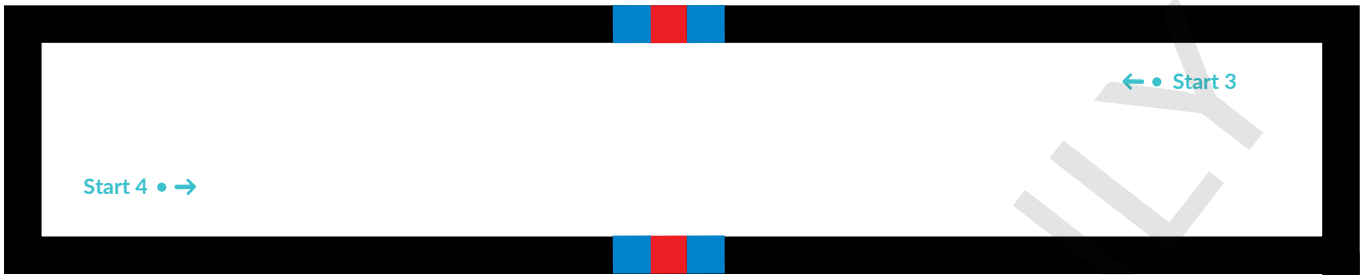
Then, complete the paths on the next two pages and observe your bot in action.

 | Introduction to Color Codes 04: Direction

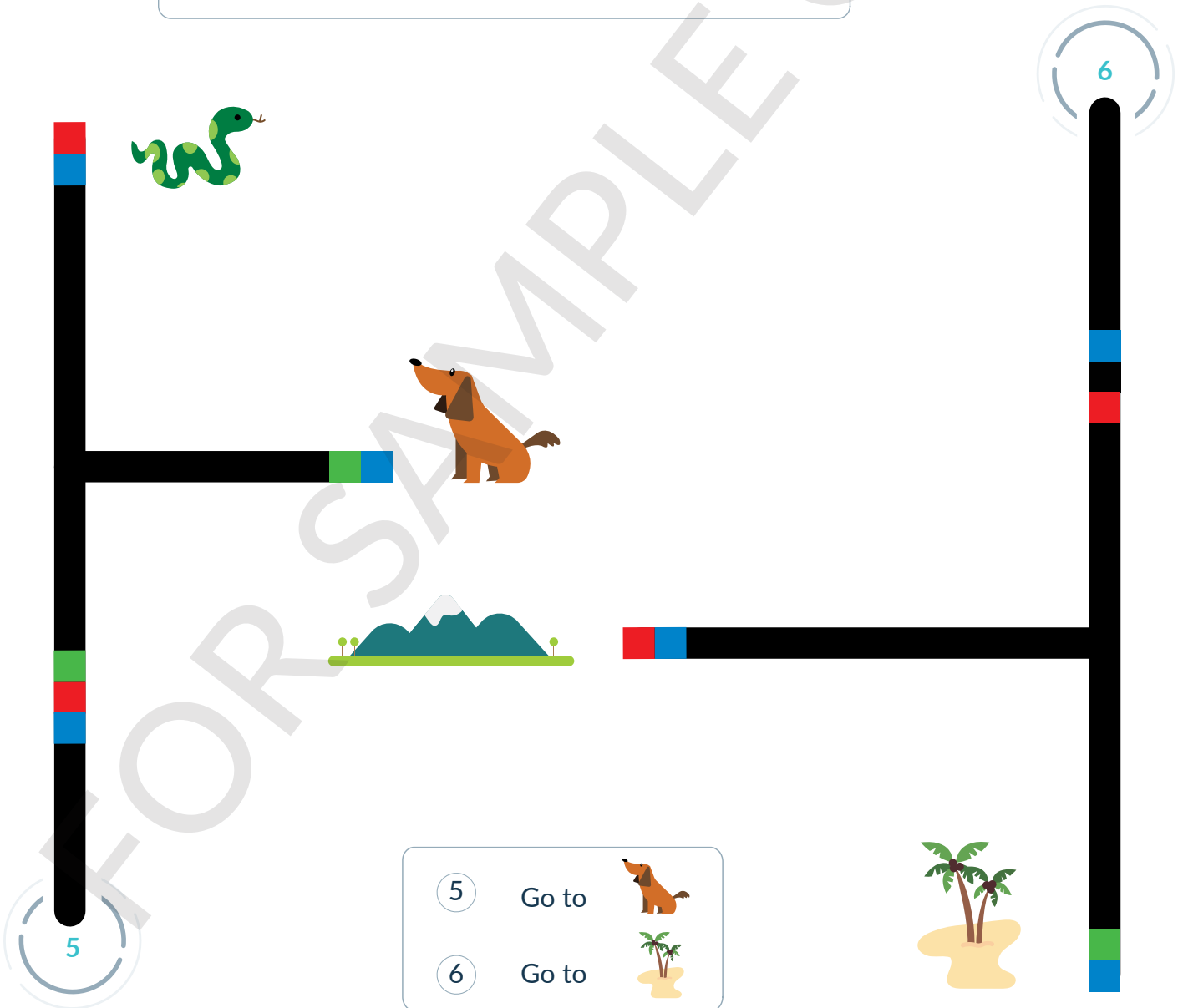
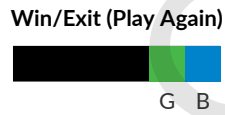
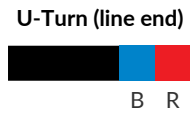
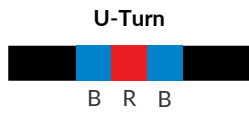


• Color Code Key

Left at Intersection	Straight at Intersection	Right at Intersection
		
G BK R	B BK R	B R G



• Color Code Key

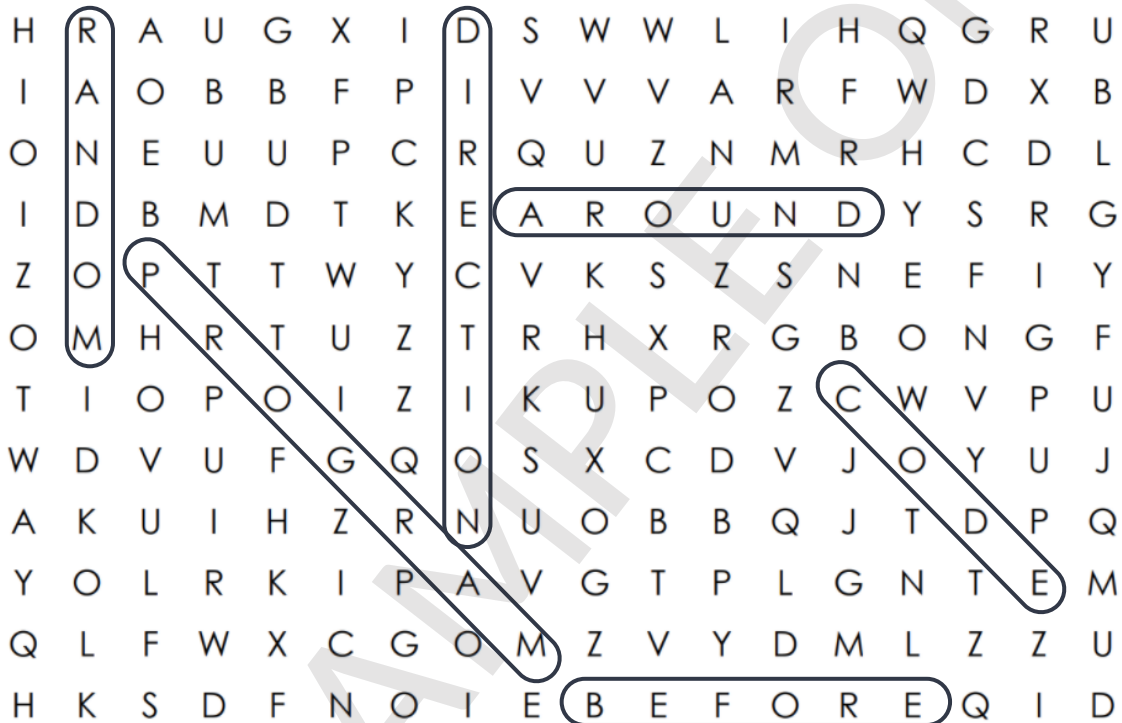


Introduction to Color Codes 04: Direction

Check Your Understanding

Find the words in the word search below. Words can be → ↓ or ↘
Then, use the words to complete the sentences.

direction	before	around	random	program	code
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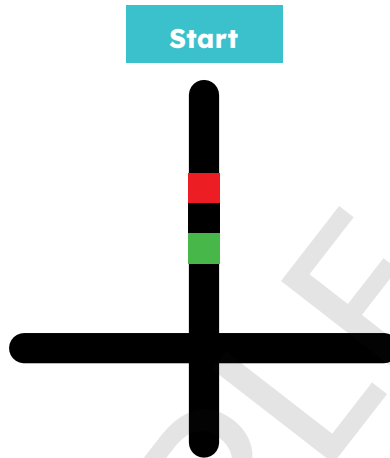


- Ozobot will choose a random direction at an intersection.
- It is important to know the direction Ozobot is moving.
- You can use a Color Code to tell Ozobot in which direction to move.
- A U-Turn Color Code will program Ozobot to turn around.
- You can program Ozobot to turn right, turn left, or go straight.
- Remember to program Ozobot before it gets to the intersection.

Debug Challenge

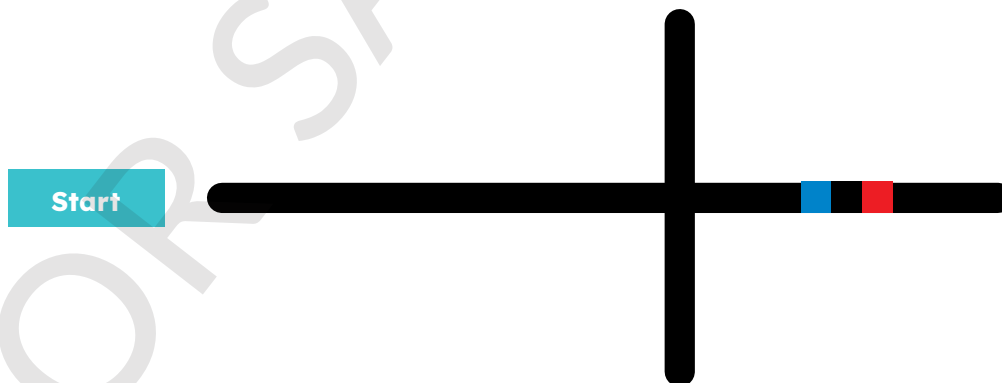
Can you help others fix their bugs or errors with the Color Codes? Use the Color Code Chart in the back of your book for help.

1. Zane wanted to program his bot to turn left, but it went straight. Look at his code. What is his bug?



The colors are in the wrong order because the bot is moving down, not up.

2. Kim wanted to program her bot to go straight at the intersection, but it turned right. Look at her code. What is her bug?

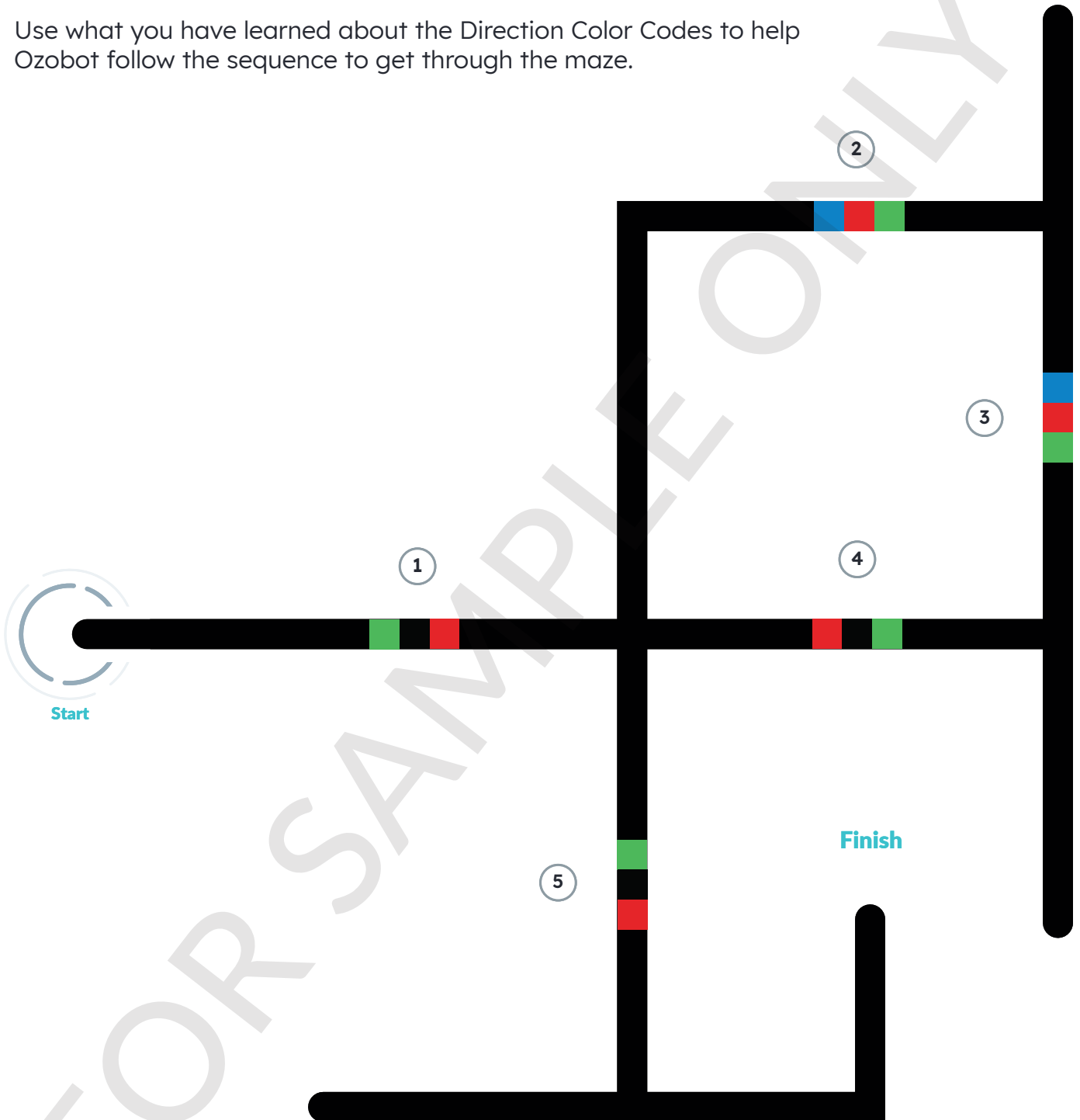


The Color Code is after the intersection but should be before the intersection.

Introduction to Color Codes 04: Direction

Code Challenge

Use what you have learned about the Direction Color Codes to help Ozobot follow the sequence to get through the maze.



Color Codes Key

Left at Intersection



G BK R

Right at Intersection



B R G



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