

The S-Curve

The aisle zig-zags — right around one wall, left around the next. You can see the map, but a real robot has to **sense its way**. Swing the turret, look around, and let your car find each opening itself.

BEFORE YOU START

Your toolkit

Everything on your car. The highlighted parts are the ones this mission needs.

SPIKE Hub

the brain · has a built-in gyro

USED THIS MISSION

2 Medium motors

left + right wheels · ports A, E

USED THIS MISSION

Large motor

steers the back · port D

USED THIS MISSION

Large motor

the

turret

: swings the distance sensor · port C

USED THIS MISSION

Distance sensor

port B · looks

right, left and ahead

on the turret

USED THIS MISSION

Color sensor

underneath, pointing down · port F

USED THIS MISSION

Hub gyro

level-up: exact 90° turns

OPTIONAL LEVEL-UP

Your car: the Delivery Cart with a large-motor turret carrying the distance sensor at the front, and a color sensor underneath. How to build it →

THE MAZE



YOUR MISSION

What the car must do

- Your program must **not** say “right, then left”. The car decides every turn from what it sees.

- At each wall: **look right** and **look left** with the turret. Right open? Turn right. Else left open? Turn left.
- Repeat until the color sensor sees **green**, then play a sound.

Turret scanning

Open or blocked?

Right-hand rule

Playbook cards for this mission: Stop and look · Open or blocked? · The right-hand rule · Green means go

BUILD IT

Maze size

Along the route	Whole maze
5 → 1.2 → 5 → 1.2 → 5 lane widths	about 6.3 × 3.7 lane widths

With a 30 cm lane width the maze is about 189 × 111 cm. Lane spacing is one lane width plus a wall.

DONE WHEN

Success looks like

- The car reaches the green tile with no scraping.
- It passes the **mirror test**: flip the maze left-to-right and the same program still works.
- It plays its sound on green.

Keep going: All missions → index.pdf | Hints → mission-3-hints.pdf

The same content is in the matching .html files.