

Turtle Mazes

Program the turtle from **START** to **FINISH** with the cut-out cards. Work in pairs on one maze at a time.

Name: _____

Date: _____

Bare `move_forward()` **cards always work.** From level 3 a `for _ in range(_):` frame can replace a whole run of forwards — single cards still work, they just use more cards.

Part 1 How to Play

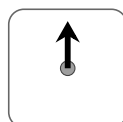
1. Work in pairs. Two roles: **programmer** and **runner**. Swap roles every level — both of you run both jobs.
2. The programmer lays out the cards — that is the program. Then hands off: **never touch the token**.
3. The runner moves the turtle token one card at a time, exactly as printed — **literally**, even straight into a dead-end.
4. A wrong turn is a **bug in the program**, not an excuse to improvise. Fix the cards and re-run from START; don't talk the token around the maze.
5. Fill in **My count** (forwards, turns, cards used) at the bottom of the level page, then get the **teacher sign-off** — no new level until it is signed.
6. The diamond is an **optional bonus** — you never need it to reach FINISH. Dead-ends trap you: go in, and the only way out is `turn_around()`.

Part 2 Reading the Maze

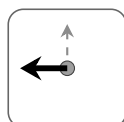
 nodes to count: 1 hop = 1 `move_forward()`
 goal cell
 one-way: enter the corridor only the way the arrow points

 start cell
 optional diamond bonus
 **faces S** the way your turtle starts facing

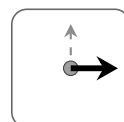
Facing. Turns `turn_left_90()`, `turn_right_90()` and `turn_around()` pivot on the spot — you never move when you turn. Here is a turtle facing N (up the page):



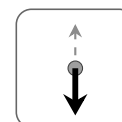
start
facing N



`turn_left_90()`
now faces W



`turn_right_90()`
now faces E



`turn_around()`
now faces S

Part 3 Seven Cards

Write shorthand on the lines if you like — one card per line — but **lay the real cards** on the table:

<code>forward</code> ×N	N × <code>move_forward()</code>
<code>left</code> / <code>right</code> / <code>around</code>	<code>turn_left_90()</code> / <code>turn_right_90()</code> / <code>turn_around()</code>
<code>for N: [...]</code>	loop card <code>for _ in range(N):</code> with the body cards inside the frame
<code>def jog(): ... and jog()</code>	<code>def</code> card + the matching call card

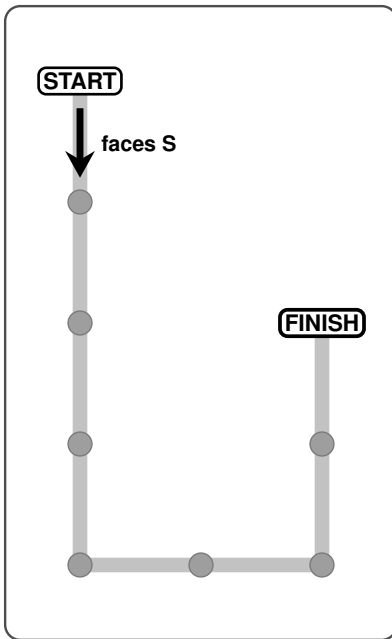
One printed set — every card is reusable within the set:

<code>move_forward()</code>	8	<code>for _ in range(_):</code>	3
<code>turn_left_90()</code>	4	<code>def ____():</code>	1
<code>turn_right_90()</code>	4	<code>call ____()</code>	1
<code>turn_around()</code>	3		

Level 1 — 01-s-bend

Start here: move and turn

3 × 5 grid • the turtle starts facing south • follow the corridor, node to node, to FINISH



Write the cards you would lay down:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

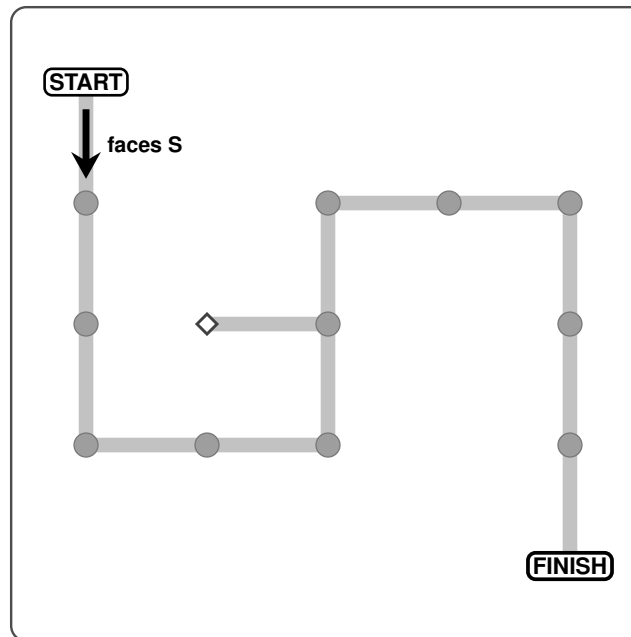
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 2 — 02-zigzag

Zigzag: turns pivot on the spot

- 5×5 grid
- the turtle starts facing south
- diamond on a short side-corridor off the zigzag — detour optional



Write the cards you would lay down:

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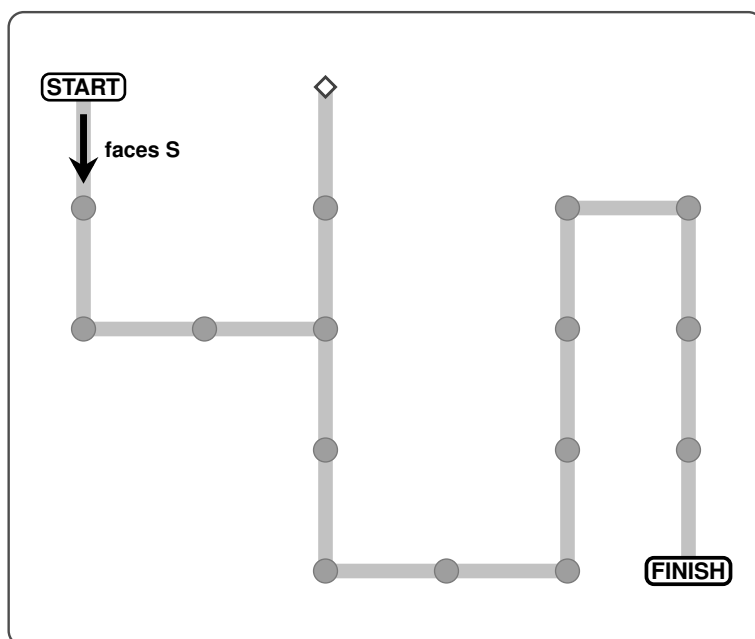
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 3 — 03-weave

New: loops start to pay off

- 6 × 5 grid
- the turtle starts facing south
- diamond on a short top spur — detour optional



Write the cards you would lay down:

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a vertical margin line on the left side, creating a narrow left margin. The paper appears to be from a notebook or a standard ruled sheet of paper.

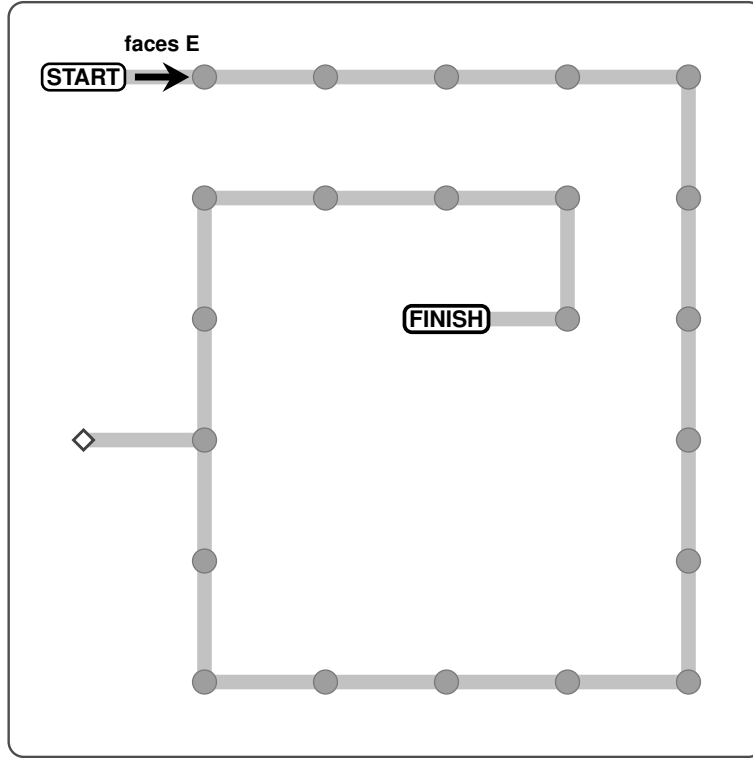
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 4 — 04-spiral

Loop challenge: five long straights

- 6 × 6 grid
- the turtle starts facing east
- diamond on a short spur off the spiral — detour optional



Write the cards you would lay down:

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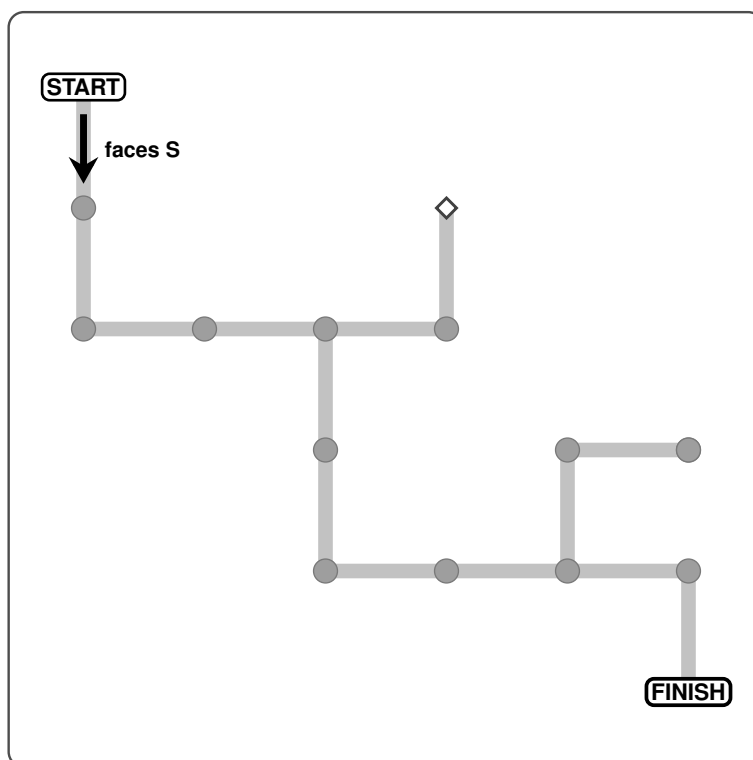
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 5 — 05-open-maze

No arrows, but one corridor is a trap

- 6×6 grid
- the turtle starts facing south
- no one-way arrows
- diamond optional (stretch)



Write the cards you would lay down:

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

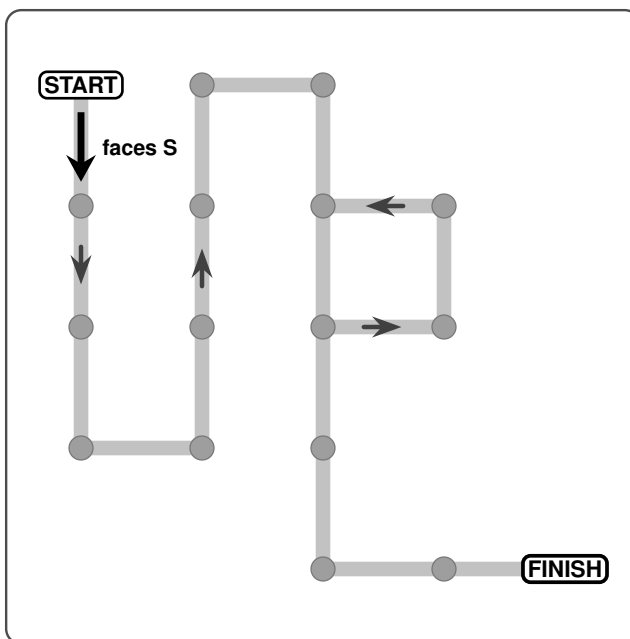
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 6 — 06-one-way-maze

New: one-way corridors

- 5×5 grid
- the turtle starts facing south
- the arrow says which way you may *enter* a corridor
- no dead-ends



Write the cards you would lay down:

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There is a vertical margin line on the left side, creating a narrow left margin. The paper appears to be from a notebook or a standard sheet of stationery.

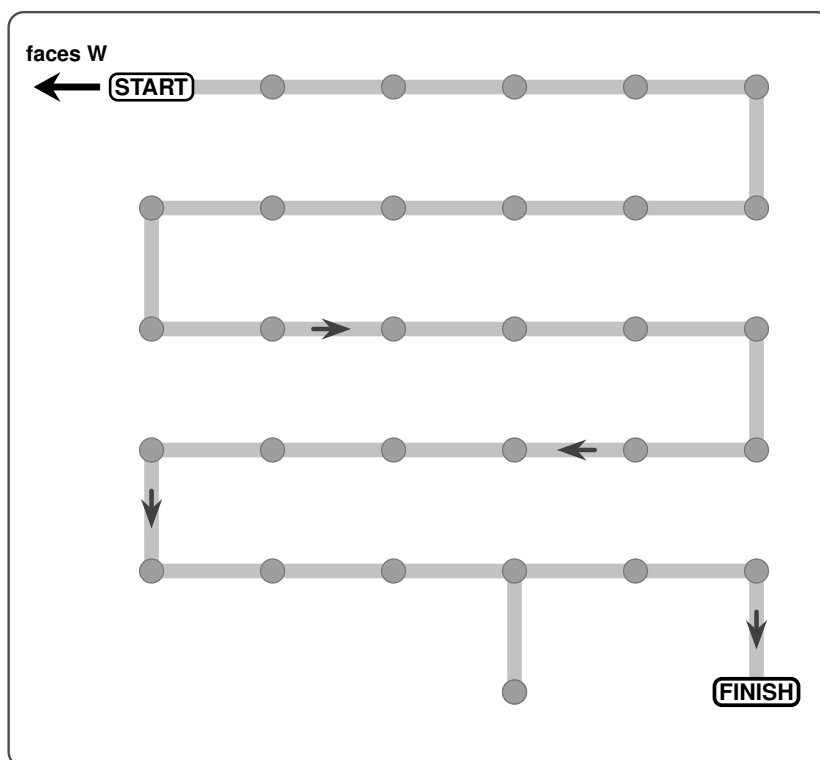
My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____

Level 7 — 07-long-maze

Stretch: def a jog, then call it

- 6×6 grid
- the turtle starts facing west — the first corridor runs east
- four one-ways and one trap
- no diamond



Write the cards you would lay down:

[illegible]

My count: forwards _____ turns _____ cards used _____

Teacher sign-off: _____