EXPLAIN

AC9M2M05 · E4

Program a Path with Turns

Elaboration 4 · Giving and following directions using turns on a grid

ELABORATION FOCUS

Giving or following directions to find an object in the room or trace a pathway through a grid, such as programming a robot, using quarter, half, three-quarter and full turns.

LEARNING INTENTION **I can write a path using steps and turns.**

Start here | **Forward** | **Turn** | **Check it** | **Fix it**

1 Set the Start

Step 1: mark the start square. Step 2: say which way the robot faces.

2 Write the Steps

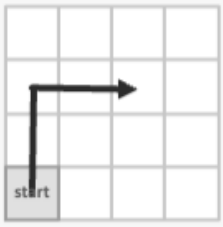
Step 3: use forward for squares. Step 4: use turns to change direction.

3 Test and Fix

Step 5: follow your own steps. Step 6: change any that go wrong.

MODEL · A PATH ACROSS THE GRID

Forward 2, quarter turn right, forward 2. Each turn changes the way the robot faces.



1. Forward 2
2. Quarter turn right
3. Forward 2

After the turn, forward points a new way.

A path only works if every turn says how far to turn and which way to turn.

TEACHER MODELLING ROUTINE **I do → We do → You do**

WATCH FOR

Forgetting that a turn changes which way forward now points.

REMEMBER

Say it to students as: "After a turn, forward points somewhere new."

MATERIALS

Floor grid or masking tape, programmable robots, direction cards, counters.

Teacher note: the classic error is turning correctly but then moving as though the robot still faces the original way. Have students physically walk the path before writing it.