

technology

Drive the floor robot

Lesson at a glance

Place the floor robot on a taped mat with a teddy picture a short path away and ask what to say first. Model Clear, a short forward sequence, a class guess of the stop square, then Go, and name steps in order after the robot moves. Plan one clean route on the algorithm-sequencer interactive (teacher moves the cards). Groups then drive real robots or child-robots with the chant say-clear-press-guess-Go. Close with carpet talk on what they noticed — no journal page.

Learning objectives

- Press a short sequence of moves on a floor robot (or direct a child robot with arrow cards) to reach a target
- Guess where the robot will stop before it goes

Before the bell – prep

Tape a simple 3×3 floor grid and put one teddy picture on a short-path square. Charge or wake floor robots; if none, lay out big arrow cards and choose a child-robot. Open the algorithm-sequencer interactive in explore mode on the IWB.

Materials

Item	Qty	Per	Source	Low-cost substitute
Bee-Bot or similar floor robot	1	group	school kit	a child acts as the robot and follows big arrow cards across a taped floor grid
taped floor mat with picture squares (masking tape grid)	1	group	classroom	chalk grid on a playground surface, or carpet squares laid in a grid
target picture cards (teddy or similar)	3	group	classroom	a small soft toy or classroom object placed on one square
big arrow cards (forward, turn left, turn right)	1	group	classroom	draw large arrows on scrap card or paper plates

Safety watch-point

Clear walkways; keep robots on the floor only; no running across the mat to help the robot.



Teaching moves

- **Getting Started:** Set the robot (or child-robot with an arrow card) on the taped mat where all can see. Point to the teddy and ask only What should we say first? Take a few called-out first moves; do not run a full sequence yet. Once, link: real robots follow step-by-step instructions, just like ours.
- **Steps in order:** Keep the board almost empty. After the robot has moved in the next beat, name the idea in one line: We give the robot steps. It does them one by one, in order. That is steps in order. Head off the idea that the robot already knows where the teddy is.
- **Watch the robot go:** Lead the modelled cycle aloud: Clear first (Empty robot. No old steps left inside), wonder, think a short path, press each button slowly, pause for a class guess, then Go. On a miss, smile and Clear before the retry. If a turn appears, point at the robot's nose: turn stays on the square; only the nose changes — then forward moves it. Cue facing with Nose toward the window, or nose toward the teddy?
- **Plan the route:** Open the algorithm-sequencer interactive in explore mode; you move the cards, children call ideas. Default to forward-only on a straight line (e.g. two forwards). Ask Which step first? and Where will it stop? before Run. If you add a turn, freeze for a whole-class body turn facing the same way as the sprite. No interactive? Lay big arrow cards on the floor and walk the route with a finger or toy, then send groups to the mats.
- **Drive the robot:** Lead the chant every try: say the steps, Clear, press, guess, Go. One job at a time; waiting groups plan with arrow cards on the floor. On a miss ask which step should we change?, then chant again from Clear. Watch for saying steps before buttons, guessing the stop square, and checking which way the nose faces. Keep sequences short; rotate groups if robots are few.
- **What did we notice?:** Carpet talk only — no typing, no journal. Stay on our robot and our steps. Offer starters: I noticed... Our first step was... Next time I would... Draw out: the robot only does what we give it, order matters, Clear before a new try. One teacher line only: people who make real robots write steps like ours so the robot can help with jobs.

What it should show

With a short forward path that matches the grid, the robot (or child-robot) should stop on the teddy when the pressed steps match the squares. A miss usually means a wrong step, a forgotten Clear leaving old moves, or the nose facing the wrong way before a forward. Affirm the guess-before-Go habit; gently redirect anyone who thinks the robot already knows the teddy's square.

Misconceptions & interventions

- **The robot knows where the teddy is and will find it by itself.** — After a miss or a success, point at the buttons or cards: it only did exactly what we pressed. Clear, change one step on purpose, and show the new stop square.
- **When we press turn, the robot rolls to a new square.** — Point at the robot's nose before Go. Say turn stays on the square; only the nose changes — then forward moves it. Do a quick whole-class body turn facing the same way as the robot.
- **We can press a new sequence on top of the old one without clearing.** — Before every try, press Clear together and say Empty robot. No old steps left inside. Retry only after Clear so the new steps are the ones being tested.

Differentiation

Emerging	Developing	Proficient
• Give a straight forward-only path to the teddy and model the chant with the group; teacher or a peer presses Clear each try. • Let the child hold arrow cards in order for a child-robot while a partner says the steps aloud.	• Keep two or three short steps; insist on a stop-square guess before every Go and a Clear before every retry.	• After one clean forward win and a whole-class body check, add one turn left or right and ask which step to change if it misses.

Cross-curricular hook

Tie to oral language and Maths position words — first, next, forward, left, right, and which way the nose faces.