10 · Project sheet · Path to the School Gate

Robot / Maker Lab practical · Nursery 1 · Term 1 · Week 9 · Integration

1. At a glance

Time	40 minutes (fits the lesson; 20 min if used on its own)
Group size	Teams of 3: planner, robot, checker (rotate)
Learning goal	I can plan 3 cards and guide Ayo along a straight path.
Coding idea	Plan → run → fix. The cards are the program; moving Ayo is running it; fixing a wrong card is debugging.
Week link	https://rhinoxscientifica.com/q/n1-t1-w9

2. Materials needed

Item	Per	Low-cost swap
Forward and stop cards (3–5 per team)	team	Draw arrows and a stop hand on paper
Straight taped path, 3–5 boxes	team	Sheets of paper or chalk boxes
Box school gate + zebra-crossing picture	team	A chair as the gate
Cut-out Ayo	team	Any small toy
Phone or tablet for photos	teacher	Write the cards on paper
Step Star stickers	child	Washable marker star on the hand

3. Safety and care

- The path stays inside the classroom.
- The gate is a box, not a real road.
- Walk, never run; freeze on stop.
- Road-safety talk: in real life we cross only at a zebra crossing, holding a grown-up’s hand.

4. Before the lesson

1. Tape the straight paths, one box per step.
2. Print forward/stop cards and the gate sign (Printables pages 1–3).
3. Set out cut-out Ayo at the start of each path.
4. Read the lesson spec the evening before and lay out the cards.

5. Step-by-step guide

Step	Teacher says	Children do
1	“Ayo must walk straight to the school gate. Planner, lay all the cards first!”	Planner lays forward, forward, stop
2	“Checker, check the plan: first, next, last.”	Checker reads the cards aloud
3	“Robot, run the plan! One box per card.”	Robot moves Ayo: forward, forward, stop

Step	Teacher says	Children do
4	“Did Ayo stop at the gate?”	Yes, or find the wrong card
5	“Fix the wrong card and run again.” (photo the row)	Team fixes and reruns
6	“Rotate roles!”	New planner, robot and checker

6. Explore it

Question	What happens if one card in the plan is wrong?
Predict	“Forward, stop, forward: will Ayo reach the gate?” Thumbs up or down.
Try	Run the wrong plan, then fix it to forward, forward, stop and run again.
Observe	“Where did Ayo stop the first time? And the second time?”
Explain	The robot follows the plan exactly. If a card is wrong, Ayo goes to the wrong place. We fix the card, not the robot.

7. Talk about it

1a. What cards did you plan?

1b. Did Ayo reach the school gate?

1c. Which card did you fix?

2a. Why do we plan before Ayo moves?

2b. What does the stop card do?

2c. Where do we cross a real road?

8. Support and stretch

Support	A 2-box path (forward, stop). The teacher lays the first card; the child adds the stop card.
Stretch (optional)	A longer path with 4–5 cards, or forward ↻ ↻ ↻ stop. Never assessed.

9. How we check

Observation only, not marked, plus a photo of the card row.

Look for	Secure	With prompts	Not yet
Plans 3 cards before anyone moves	☐	☐	☐
Runs the plan one box per card	☐	☐	☐
Finds and fixes a wrong card	☐	☐	☐

10. Take-home and parent note

> **Dear parent or carer**
> Today your child **planned a path** for Ayo with picture cards, ran the plan, and fixed a wrong card.
> At home: your child plans the steps to a toy out loud first, then you walk them exactly.

11. Show and share

- Two teams show plan → run → fix for the class.
- Everyone says: “Plan, run, fix!”
- Every child who planned, ran and fixed a path gets a **Step Star sticker**.



The Step Star is a weekly sticker, not a badge. The term badge “Step Thinker · Term 1” is awarded in Week 13.