10 · Project sheet · Ayo's Big Challenge

Robot / Maker Lab practical · Nursery 1 · Term 3 · Week 8 · Practice & Play

1. At a glance

Time	40 minutes (two tasks at once, teams swap)
Group size	Teams of 3; max 6 children on the course
Learning goal	I can plan and solve a challenge with my team.
Coding idea	Plan, test, fix: put all of Term 3 together.
Week link	https://rhinoxscientifica.com/q/n1-t3-w8

2. Materials needed

Item	Per	Low-cost swap
Sturdy table (crawl under)	class	A sheet over two chairs (adult sets up)
Light boxes (walk around)	class	Cushions
Tape line + W5 block ramp	class	Chalk line; skip the ramp
Paper copy of the course + plan card	team	Hand-drawn sketch
Step and go-round cards	team	Hand signs
Cut-out Ayo with paper bread	team	A toy

3. Safety and care

- Floor level only; no climbing on boxes or the table.
- At most 6 children on the course at once.
- Adults move boxes and tables.
- One way round; no crossing paths.

4. Before the lesson

1. Set out one floor-level course; check the table edges.
2. Draw a paper copy for each table.
3. Print the cards and plan cards; make paper bread.

5. Step-by-step guide

Step	Teacher says	Children do
1	"What is the problem?"	"Ayo must get the bread through!"
2	"Plan 3 small steps."	Lay 3 step cards on the plan card
3	"Test it with Ayo on the paper course."	Move Ayo; fix any wrong card
4	"Walk it! Six on the course."	Crawl, go round, step the line
5	(Box blocks the way) "Blocked!"	Swap in "go round"; test again

Step	Teacher says	Children do
6	“Show your plan.”	Teacher takes a photo

6. Explore it

Question	Does a plan help us solve a big challenge?
Predict	“Will our 3 cards get Ayo through?”
Try	Walk the plan.
Observe	“Where did it work? Where was it blocked?”
Explain	A plan helps; when something is blocked, we change one step and test again.

7. Talk about it

1a. What was the challenge?

1b. What were your 3 steps?

1c. What did you change when it was blocked?

2a. What was your job in the team?

2b. Which obstacle was hardest?

2c. What would you add next time?

8. Support and stretch

Support	Give the first card; the team chooses the next two.
Stretch (optional)	Add a second obstacle. Never assessed.

9. How we check

Observation only, not marked. Photo each team’s plan.

Look for	Secure	With prompts	Not yet
Plans 3 steps before moving	☐	☐	☐
Tests the plan with Ayo	☐	☐	☐
Tries another way when blocked	☐	☐	☐
Works with the team	☐	☐	☐

10. Take-home and parent note

> **Dear parent or carer**
>
> Today your child’s team **planned and solved a big challenge**: getting Ayo’s bread through an obstacle course.
>
> At home: make a mini course and plan 3 steps together first.

11. Show and share

- Teams show their plan cards and photos.
- Everyone says: “Plan it, test it, fix it, together!”
- Every child who planned and tested with the team gets a **Step Star sticker**.



The Step Star is a weekly sticker, not a badge. The term badge “Step Thinker · Term 3” is awarded in Week 13.