10 · Project sheet · Under the Cup

Robot / Maker Lab practical · Nursery 1 · Term 2 · Week 5

1. At a glance

Time	40 minutes (fits the lesson; 15 min if used on its own)
Group size	Pairs
Learning goal	I can say what comes next.
Coding idea	Predict, then check. Coders predict what a program will do before they run it.
Week link	https://rhinoxscientifica.com/q/n1-t2-w5

2. Materials needed

Item	Per	Low-cost swap
Large red and blue card counters (counted out)	pair	Big paper squares
Plastic cup	pair	A hand or a sheet of paper
Gap pattern strips	pair	Draw a strip with a gap
Step Star stickers	child	Washable marker star on the hand

3. Safety and care

- **Large card counters only, no bottle caps.**
- **Count counters out and back in.**
- Plastic cups only (no glass).
- Counters stay on the table, not in mouths.

4. Before the lesson

1. Count counters into bags; note the number.
2. Print the gap strips (Printables).
3. Read the lesson spec the evening before and lay out the cards.

5. Step-by-step guide

Step	Teacher says	Children do
1	“Make a pattern: red, blue, red, blue…”	Pattern maker lays 5 counters
2	“Hide the next counter under the cup.”	Puts the next counter under the cup
3	“Partner, predict! What is under the cup?”	Partner says “red!” (or blue)
4	“How do you know?”	“Because it goes red, blue…”
5	“Lift the cup and check!”	Partner lifts the cup
6	“Swap jobs! Then count the counters back in.”	Swap; count counters into the bag

6. Explore it

Question	Can we predict what is hidden if we know the pattern?
Predict	“Red, blue, red, blue, red… what is under the cup?”
Try	Lift the cup to check. Then try a harder pattern.
Observe	“Was your prediction right? Why?”
Explain	Knowing the part that repeats lets us predict. Checking tells us if we were right.

7. Talk about it

1a. What did you predict?

1b. Were you right?

1c. How did you know?

2a. What is missing in this strip?

2b. How does “1–2, 1–2” help?

2c. Why do we check after we predict?

8. Support and stretch

Support	Gap at the end only; say the pattern together before predicting.
Stretch (optional)	Spot the mistake in a pattern and fix it. Never assessed.

9. How we check

Observation only, not marked.

Look for	Secure	With prompts	Not yet
Predicts the hidden counter	☐	☐	☐
Explains how they knew	☐	☐	☐
Finds a missing piece in a gap strip	☐	☐	☐

10. Take-home and parent note

> **Dear parent or carer**
> Today we played **Under the Cup**: we predicted the hidden piece of a pattern, then checked.
> At home: hide the next spoon or fork under a cup and let your child predict.

11. Show and share

- Pairs show one prediction to the class.
- Everyone says: “Predict, then check!”
- Every child who predicted what comes next gets a **Step Star sticker**.



The Step Star is a weekly sticker, not a badge. The term badge “Step Thinker · Term 2” is awarded in Week 13.