10 · Project sheet · Robot Beep Codes

Robot / Maker Lab practical · Nursery 1 · Term 2 · Week 3

1. At a glance

Time	40 minutes (fits the lesson; 15 min if used on its own)
Group size	A sound circle of 6–10; the instrument is passed round
Learning goal	I can hear and clap a pattern.
Coding idea	A sound pattern can be written as cards and played back, like a program. Machines beep patterns as messages.
Week link	https://rhinoxscientifica.com/q/n1-t2-w3

2. Materials needed

Item	Per	Low-cost swap
Sealed bottle shaker (adult-made, lid glued)	circle	Clap and tap knees
Upturned plastic bowl + wooden spoon	circle	Pat the floor
Clap, stamp, beep, boop cards; sound strips	group	Draw the pictures
Machine cards (microwave, car)	class	Talk about machines at school
Step Star stickers	child	Washable marker star on the hand

3. Safety and care

- **An adult makes the shaker and glues the lid shut before the lesson.**
- **No seeds or small parts in child hands.** Check the lid before each use.
- Gentle drumming; no banging near ears.
- Pass instruments, never throw them.

4. Before the lesson

1. Make and dry the shaker (Guide 05).
2. Print the sound cards and 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	“Listen with your ears. Beep, boop, beep, boop…”	Listen; say “beep” next
2	(Clap–stamp–clap–stamp) “Copy me!”	Copy the pattern
3	“Keep it going!”	Continue 2 more
4	“Read the cards and play them.” (show a strip)	Play the strip

Step	Teacher says	Children do
5	“Your turn to play the shaker. Make a pattern!”	One child plays; group copies
6	“Pass it on!”	Next child plays a pattern

6. Explore it

Question	Can we play the same pattern loud and quiet?
Predict	“If we play clap, stamp very quietly, is it still the same pattern?”
Try	Play clap–stamp loud, then quiet, then loud again.
Observe	“What changed? What stayed the same?”
Explain	The sounds and their order make the pattern. Loud or quiet does not change the pattern.

7. Talk about it

1a. What sound came after beep?

1b. What pattern did you play?

1c. Did the group copy it?

2a. Which machine beeps a pattern?

2b. What is it telling us?

2c. Do we use our ears or our eyes to hear a pattern?

8. Support and stretch

Support	Copy 2 sounds, then 4. The teacher plays alongside.
Stretch (optional)	Make a sound pattern for a friend to copy. Never assessed.

9. How we check

Observation only, not marked.

Look for	Secure	With prompts	Not yet
Copies a sound pattern	☐	☐	☐
Continues it 2 more	☐	☐	☐
Names a machine that beeps a pattern	☐	☐	☐

10. Take-home and parent note

> **Dear parent or carer**
> Today we made **robot beep codes**: sound patterns like beep, boop, beep, boop.
> At home: listen for machines that beep and ask your child what they are telling us.

11. Show and share

- Children play their beep codes; the class copies them.
- Everyone says: “Patterns can be seen and heard!”
- Every child who clapped and continued a sound pattern 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.