

technology

Spot the repeat and the bug

Lesson at a glance

Open by performing clap, clap, stamp twice and asking what keeps coming back, then name the words repeat and bug on the board. Model a straight path of forwards on the algorithm-sequencer interactive, then plant one wrong turn so the class spots and fixes the bug. Groups act ready card patterns on the floor, point to the repeating chunk, swap one wrong card, and record the repeat and fix in the Investigation Journal. Close with a quick think-pair-share on repeats in songs, games and classroom borders.

Learning objectives

- Spot a step that repeats in a short sequence
- Find a wrong step (a bug) and suggest a fix

Before the bell – prep

Clear floor space before the lesson. Print action-card sets per group (at least 4 clap, 4 wave, 2 stamp, 2 jump, 2 spin, 2 nod) plus a spare pile for planting bugs; sticky notes with the same words work. Open the algorithm-sequencer interactive on the IWB in explore mode.

Materials

Item	Qty	Per	Source	Low-cost substitute
action step cards (clap, stamp, jump, wave, spin, nod)	1	group	provided printable	write the six action words on scrap paper or sticky notes using the same counts
spare action cards for planting bugs and fixes	1	group	classroom	blank sticky notes so groups can rewrite a wrong step
clear floor space for acting sequences	1	group	classroom	use the school hall or a corridor bay if the classroom is tight

Safety watch-point

Gentle on-the-spot moves only; keep space between bodies; no running spins across the room.



Teaching moves

- **Getting Started:** Stand where all can see and do clap, clap, stamp twice without naming it. Pause and take hands for what keeps coming back — accept "clap clap stamp" or "the same three moves". Keep cards and the words repeat and bug off the board; this beat is curiosity only.
- **Today's words: repeat and bug:** Write repeat first with the clap-clap-stamp example. Quick-check with clap, clap, wave, clap, clap, wave, then swap the second wave for a stamp and ask where the bug is. Only then write bug. Keep fix as a spoken action word — do not add it as a third board definition.
- **Spot the repeat on the board:** On the algorithm-sequencer, build forward, forward, forward, forward so the robot reaches the star; point to the four forwards as the repeat. Then change one middle forward to a turn, run it so the robot misses, and invite a fix. One clean fix run is enough — take two hands and move on. If the interactive is down, lay arrow cards on a mat and walk the path yourself.
- **Act it out: find the repeat and the bug:** Part A: hand each group a ready pattern (e.g. clap, clap, stamp, clap, clap, stamp); they act it twice and finger-point the repeating chunk. Part B: swap in one wrong card (e.g. last stamp → wave); groups find it, swap from the spare pile, and re-act the fix. One showcase is enough if time slips — fold watchers in with "Where was their bug? What did they change?"
- **Record what we found:** Protect these minutes for the paper Investigation Journal only. Prompt two captures: the repeat spotted and the bug fixed (and what it became). Scribe a word or two for anyone who needs it. Fast finishers may add which step repeated on the board robot path.
- **Patterns all around us:** Draw out choruses, clapping games, hopscotch, scarf stripes, brick walls. If ideas dry up, hum "A sailor went to sea, sea, sea" or point to a classroom border, then ask where else they have seen the same idea.

What it should show

Groups should name a short chunk that returns (e.g. clap-clap-stamp or jump-nod) and spot one planted wrong card, swapping it so the pattern runs cleanly again. A group that cannot find the bug often acted too fast to notice the odd move — slow them to one card at a time. Journal pages show a ringed repeating chunk and a crossed-out wrong card with the fix beside it.



Misconceptions & interventions

- **"A bug means the whole pattern is broken forever."** — Hold up the single wrong card and say the rest of the line is still fine — only this step needs changing. Swap it and re-act so they see the sequence work again.
- **Pupils treat a wrong guess or prediction as a bug.** — Revoice: a bug is a wrong instruction on a card or block, not a guess that turned out differently. Point back to the planted wrong card as the only bug in the line.
- **Pupils name every single clap as a separate repeat instead of the repeating chunk.** — Finger-slide under clap-clap-stamp as one group and say "this whole bit comes back". Ask them to point to the chunk, not each card alone.

Differentiation

Emerging	Developing	Proficient
• Give a three-card ready pattern (clap, stamp, clap, stamp) and scribe the journal labels while they point to the cards.	• After fixing the planted bug, ask which bit still repeats and have them act the fixed line once more for a partner.	• Invent a four-card pattern with one clear repeat, plant their own bug, and challenge a partner group to find and fix it.

Cross-curricular hook

Link to Music and PE clapping games and song choruses — the bit that comes back is the same idea as a repeat.