

technology

Patterns and bugs

Lesson at a glance

Open with a slow clap-clap-spin phrase done twice and ask which bit came back. Name pattern, bug and fix with gestures, then model Jump-Jump-Spin twice on floor step-cards and swap the last Spin for Wave so the class spots and fixes the one wrong card. Groups copy a board dance, act it, then run a “bug time” swap-and-fix burst. Close on the algorithm-sequencer interactive with one wrong turn on a five-step robot path, then a carpet talk linking the habit to game-makers.

Learning objectives

- Spot a repeat (pattern) in a short action sequence
- Find a wrong step (bug) in a sequence
- Suggest a fix for the bug so the sequence works

Before the bell – prep

Print duplicate-rich action step-card packs the day before (about 4 Jump, 4 Clap, 3 Spin, 3 Stomp, 2 Wave, 2 Half-turn per demo and per group). Clear floor strips. Load the algorithm-sequencer interactive; have arrow cards ready if the IWB fails.

Materials

Item	Qty	Per	Source	Low-cost substitute
action step-cards with duplicates (Jump, Clap, Spin, Stomp, Wave, Half-turn)	1	group	classroom	sticky notes with a simple action drawing on each; make several of each action so groups can build a repeat
clear floor space for acting sequences	1	group	classroom	a marked strip of hall floor if the classroom is tight
pictured board starter sequence (Clap, Clap, Stomp – Clap, Clap, Stomp)	1	class	classroom	lay one set of the action cards face-up on the front strip so the whole class can see the starter line

Safety watch-point

On-the-spot moves only; soft landings; freeze on your call. Spin is a full circle; Half-turn is face the other way only – keep them distinct so nobody crashes.



Teaching moves

- **Getting Started:** Stand where all can see. Act clap, clap, spin twice slowly. Hands-up: which bit came back? Accept any clear name of the repeat. When you first say bug, cross your arms and gloss it aloud as “a wrong step” so nobody pictures an insect.
- **Bug and fix words:** Board holds only the words bug and fix. Crossed arms for bug; thumbs-up for fix. Keep the beat short so the star idea locks before any cards come out. Celebrate finding a wrong step — it is not “being bold”.
- **Watch me spot and fix:** Lay Jump, Jump, Spin, Jump, Jump, Spin and act it once. Circle the two repeats. Swap the last Spin for Wave, act the buggy line, then ask which single card is the bug and how to fix it. Swap Wave back to Spin and act the fixed dance so the fix is felt.
- **Act it and fix it:** Groups copy the board starter Clap, Clap, Stomp — Clap, Clap, Stomp with cards and act once. Call “bug time”: one named helper swaps one card while eyes are covered; group points to the bug, names the fix, helper swaps back, all act the fixed dance. Optional calm Burst 3: a second ready-made line, still one bug only.
- **Find the bug on the board:** Bridge aloud: same bug-spotting idea, new robot moves. Have the class point the way the robot faces, then finger-walk the correct path. Run the buggy sequence (forward, forward, turn left, forward, forward). Point to the single wrong card; change left to right; press run so the robot hits the star.
- **How we fixed the bug:** Carpet talk only — no writing. Retell the three moves: spot the repeat or path, point to the one wrong step, swap and try again. Name once that game-makers fix wrong steps so games do not get stuck. Invite one or two fixed dances if time.



What it should show

Most children point to the single swapped card (e.g. Wave instead of Spin, or turn left instead of turn right) and name the matching fix. If a group says the whole second half is wrong, praise the notice and narrow them to the one card to change. On the robot, after the fix the sprite should land on the star; a miss usually means the left/right cue was skipped before judging.

Misconceptions & interventions

- **“A bug is a creepy-crawly” — children picture an insect when they hear the word.** — Cross your arms every first use and say the gloss out loud: “a bug means a wrong step, not an insect.” Keep the gesture paired with the word through the card and robot beats.
- **“The whole second half is wrong” instead of naming one card.** — Praise the notice, then point along the line card by card: “Which one card would you change so the pattern matches again?” Have them swap only that card and re-act.
- **On the robot, children guess left/right from the fail without first knowing which way the sprite faces.** — Before any run, have the class point with a whole arm the way the robot looks, and use big left/right hand cues. Only then ask which single step is the bug.



Differentiation

Emerging	Developing	Proficient
• Keep support groups on the two-action board starter only (clap-stomp-clap-stomp) and stay at the teacher table for the single bug swap. • Accept pointing to the wrong card; you supply the fix word, then they act the fixed line with you.	• Use the guiding questions while circulating: Which bit is the pattern? Which card is the bug? What will you put instead?	• If calm, offer a second ready-made line in Burst 3 still with one bug at a time — no inventing multiple bugs. • On the robot beat, ask them to agree or challenge the named bug and say what they would try instead before you drag the fix.

Cross-curricular hook

Link to PE locomotor/non-locomotor actions and to Maths pattern — the same “what comes next” talk used in repeating shape or clap patterns.