

technology

Decompose and spot the pattern (unplugged)

Lesson at a glance

Open by performing clap-clap-stamp three times and asking which bit came back again. Model decompose live on paper strips, circle the repeating chunk, and name it as a loop with a count. Groups then choose a class dance, squared-paper border or PE warm-up, break it into ordered strips, circle the pattern and practise a short show. They transfer steps, chunk and loop count into the Investigation Journal, share two or three sequences, and close with a talk on everyday loops.

Learning objectives

- Break a bigger task into smaller ordered steps
- Identify the part of a sequence that repeats (a loop)
- Show a short sequence that uses a repeat

Before the bell – prep

Cut 8–10 blank paper strips per group before the lesson and set squared paper aside for border groups. Clear a small front acting strip. Optionally pre-write the support dance slips (step side, clap, turn) for groups who need them.

Materials

Item	Qty	Per	Source	Low-cost substitute
blank paper step strips (about 10 cm by 3 cm)	10	group	classroom	sticky notes or torn notebook strips
squared maths paper	1	group	classroom	plain paper with a lightly pencilled grid
pencils and colouring pencils	1	pupil	classroom	crayons or markers
Investigation Journal page	1	pupil	provided printable	plain page headed steps and repeating part

Safety watch-point

One movement group only on the cleared front strip at a time; desk groups stay seated so dance and PE practice do not collide.



Teaching moves

- **Getting Started:** Do the clap-clap-stamp dance yourself three times in a clear rhythm. Do not name loop or decompose yet. Ask which bit came back again; if answers stay vague, freeze after each clap-clap-stamp block so the chunk is obvious.
- **Break it down, find the repeat:** Lay blank strips and write one action per strip for the full nine-step dance. Circle clap-clap-stamp, hold up three fingers, and say the loop aloud. Use decompose once in speech only after the strips are visible. Head off any claim that a long list alone is a loop.
- **Break your task into steps:** Bound the choice to dance, border or PE warm-up. Keep desk groups seated; call only one movement group to the front strip at a time. If steps are vague like 'do the dance', send them back to split. Probe: What is step one? Which strip would you circle? How many times?
- **Record the steps and the loop:** Keep the Journal write-up brisk—about six minutes. Ask only for ordered steps, the repeating chunk, and how many times it loops. Check that the loop names a real repeated chunk, not the whole job. One shared group record is fine if time is tight.
- **Patterns, shortcuts and machines:** Invite two or three contrasting groups for under-a-minute shares. After each, ask watchers where the loop started and what would break if order changed. Lead with a familiar PE warm-up or assembly chorus, then widen to knitting rows, wash cycles or water wheels.
- **What we can do now:** Take three quick pair shares of a home or school job with a hidden loop. Revoice strong examples such as brushing each tooth area, laying each place, or lining up by rows. Tidy strips and squared paper.



What it should show

Successful work shows small ordered steps, one circled chunk that truly repeats, and a clear loop count (e.g. step side, clap, step side, clap, turn $\times 2$; or red-blue-green along a border). A common miss is circling the whole task or writing giant vague steps—send the group back to split and name the exact repeated unit.



Misconceptions & interventions

- **Any long list of steps is a loop.** — Point back to the strips: a loop needs a chunk that truly repeats in the same order. Ask them to circle only the part that comes back, then say how many times.
- **Pattern just means something pretty or decorated.** — Hold up a border or the clap-clap-stamp chunk and revoice: here pattern means a repeated chunk of actions or instructions, not decoration.
- **One giant step like 'do the warm-up' is enough.** — Send them back to the strips and ask what a partner would actually do first, next and next—steps must be small enough to follow one at a time.



Differentiation

Emerging	Developing	Proficient
• Give the pre-written dance strips and ask the group only to order them, circle the repeat and say the loop count.	• Prompt them to rewrite their long strip list as one short 'repeat ... times' sentence once the chunk is circled.	• Ask for two different loops in one sequence, or challenge them to spot what would break if one step vanished.

Cross-curricular hook

Link to PE warm-up sets and familiar Gaeilge or assembly choruses the class already repeats as everyday loops.