

technology

Decompose and spot the pattern (unplugged)

Lesson at a glance

Open by performing clap, clap, stamp three times and ask which bit came back again. Model live with blank paper strips: write each action, circle the repeating chunk, then rewrite it as a loop with a count. Groups pick one task — a short dance, a coloured border on squared paper, or a PE warm-up — break it into ordered strips, and name the loop. Transfer steps, chunk and loop count into the Investigation Journal, then share two or three sequences and talk about everyday loops at school and home.

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 the day before; have squared paper ready for border groups. Clear a small front strip for one movement group at a time. Optional: pre-write the support dance strips (step side, clap, turn) for groups who need ordering only.

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 in the cleared front strip at a time; desk groups stay seated until called 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. Hold back the words decompose and loop. Ask: which bit came back again and again? If answers stay vague, freeze after each clap-clap-stamp block so the chunk is obvious.
- **Break it down, find the repeat:** Project only pattern and loop on the board. Lay blank strips as you speak: write clap · clap · stamp nine times, circle the three-step chunk, hold up three fingers and say loop. Use decompose once in speech at the end. Head off anyone calling any long list a loop — a loop needs a chunk that truly repeats.
- **Break your task into steps:** Bound the choice to one of three tasks only. Desk groups stay seated for strips or borders; only one movement group uses the front strip at a time. Circulate with: What is step one? Which strip would you circle? How many times? Send vague steps like do the dance back to split. Fold watchers in on early shares: Where is the loop? What would break if step two vanished?
- **Record the steps and the loop:** Keep it to about six minutes and three things only: ordered steps, the repeating chunk, and how many times it loops. Check loops name a real repeated chunk, not the whole job. If time is tight, one shared group record is enough if each pupil still writes the loop sentence in their own copy.
- **Patterns, shortcuts and machines:** Invite two or three contrasting groups — dance, border, warm-up — under a minute each. After each share ask watchers: What was step one? Where did the loop start? What if the order changed? Lead with a PE warm-up or assembly chorus the class already knows, then widen to washing-machine cycles, knitting rows, or a familiar Gaeilge chorus.
- **What we can do now:** Take three quick pair shares of a home or school job with a loop hiding inside. Revoice strong examples: brushing each tooth area, laying each place at the table, lining up by rows. Tidy strips and squared paper.

What it should show

Every group should show small ordered steps, a circled chunk that truly repeats, and a clear loop count (e.g. step side, clap, step side, clap, turn × 2; or red-blue-green along a border). A long list with no repeated chunk is not a loop — send that group back to find or invent the repeat. Border groups succeed when they can point to the coloured unit and say how many times it runs.

Misconceptions & interventions

- **Pupils call any long list of steps a loop, even when nothing actually repeats.** — Point at their strips and ask: which chunk comes back in the same order? If none does, it is just a list — help them invent or spot a true repeating unit before writing repeat.
- **Pupils think pattern only means decoration or a pretty design, not a repeated chunk of actions.** — Hold up a dance or warm-up sequence beside a border: same idea — a chunk that happens more than once. Pattern here means repeated instructions, not just colour.

Differentiation

Emerging	Developing	Proficient
• Give the pre-written dance strips (step side, clap, turn sequence) and ask the group only to put them in order and circle the repeat. • Accept a shared group Journal record if each pupil still writes the loop sentence in their own copy.	• Prompt with: What is step one? Which strip would you circle? How many times does that chunk happen? • Ask watchers of an early share to name the loop and say what would break if one step vanished.	• Ask for two different loops inside one sequence, or rewrite the full long list using the word repeat. • Stretch the share talk: where else in school or home does a repeated chunk shorten the work?

Cross-curricular hook

Link to PE warm-up sets and a familiar Gaeilge or assembly chorus — loops the class already performs without naming them.