

LESSON 5

Dance Party Algorithms

40 minutes

Pattern Play Without Devices

WHAT THIS LESSON DOES

In this lesson, you'll explore loops through dance coding. Start by revising previous dance sequences, then learn how loops repeat instructions to make code efficient. Follow step-by-step activities to model loops and create your own dance sequences.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the concept of loops as a method to repeat instructions efficiently in coding.
- Apply loops to create and perform dance sequences with repeated steps.
- Develop problem-solving skills by designing original dance routines using loops.
- Collaborate effectively in groups to plan and present creative coding projects.
- Recognise the practical applications of loops in various contexts beyond dance.

BEFORE THE LESSON

- Clear floor space so the whole class can move and dance safely.
- Have the Random Dance Generator with loops open and working on the classroom screen.
- Set out paper and markers for groups of 3-4.

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HOW THE LESSON RUNS

Introduction

Revise and Model Loops

Loop Dance Challenge

Group Dance Creation

Showcase

Loops in the Real World

TEACHING MOVES

- 1. Introduction. Quickly revise a known dance sequence together. Introduce a loop as repeating a set of moves, like a song chorus, without writing each repeat out.
- 2. Revise and Model Loops. Show Jump → Clap → Spin on the interactive. Tap Loop ×2 under Clap so the line becomes Jump → Clap → Clap → Spin. Model slowly, saying each step, then have the class mirror you.
- 3. Loop Dance Challenge. Generate a looped sequence on screen, read it aloud, and demonstrate the repeats yourself. Have the class follow, counting each repetition out loud, first slowly then at a steady pace.
- 4. Group Dance Creation. In groups of 3-4, pupils plan a four-move dance with at least one loop on paper. They draw or name moves and mark how many times the loop repeats, then practise so everyone matches the code.
- 5. Showcase. Each group shows and teaches its dance, pointing out the loop. Class dances along. After each one, ask how the loop made the dance easier and where else they might use a loop.
- 6. Loops in the Real World. Link their dances to real programs: a robot vacuum looping until the battery is low, a game character repeating a walk step. Stress that loops keep code short and powerful.

WHAT TO WATCH FOR

- Pupils think a loop repeats the whole dance rather than only the marked move or set of moves. Point back to the interactive line: show Jump once, Clap twice, Spin once, and have them say which part is inside the loop.
- Pupils write the same move out several times on paper instead of noting a loop with a repeat count. Ask them to circle the repeated move and write Repeat ×N beside it so the algorithm stays short.
- When performing, pupils lose count of how many times the looped move should run. Have the group count the repetitions out loud together before they perform for the class.

DIFFERENTIATION

- Emerging: Pair them with a confident partner and give a two-move sequence with one simple loop (for example Clap ×3) to perform first. Stay with the group while they mark the loop count on paper before they try the moves.
- Developing: Prompt them to check that every member follows the same loop count during practice. Ask them to explain which moves sit inside the loop and which sit outside.
- Proficient: Challenge them to add a second loop or nest a short repeated pair inside a longer routine. Have them lead the class teach-back and answer how the loop shortened their algorithm.