



EduTrend Contents

EDUTECH · STEM RESOURCES FOR TEACHERS · PRIMARY

Unplugged, Then Scratch

Learn a dance algorithm on paper before coding it in Scratch

Ages 7–10

Level: Foundation

2 × 40 minutes

Pairs · up to 30

Activity 01

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 pupil worksheets · assessment checklist

ACTIVITY 01 · AT A GLANCE

Unplugged, Then Scratch

In the first lesson, pairs design a short dance using move cards and a repeat card, then perform it exactly as written and debug it. In the second lesson, they recreate the same dance with a sprite in Scratch using motion, costume and repeat blocks, and compare the unplugged and coded versions.

Learning outcomes

By the end of the session pupils can:

- write a sequence with a repeat;
- follow and debug an algorithm;
- translate an algorithm into code;
- compare unplugged and coded versions.

KEY WORDS

algorithm · sequence · repeat ·
sprite · block · debug

CURRICULUM LINKS

PE: dance and movement. Music:
rhythm and repetition. English:
instructions.

1**QUESTION**

What will we find
out?

2**PREDICT**

What do we
expect?

3**EXPLORE**

Use the resource

4**RECORD**

Capture evidence

5**EXPLAIN**

What did we learn?

6**EXTEND**

Where next?

Materials (per pair)

- Move cards and repeat cards
- Devices with Scratch (online or offline editor)
- Worksheets 1, 2 and 3

Before the session

- Print move cards.
- Check Scratch access (teacher account or offline editor).
- Clear space for dancing.
- Print worksheets.

SAFETY

Clear space for movement. Use school-
managed or offline Scratch accounts; no
personal details.

ACTIVITY 01 · SESSION PLAN

Step by step

Doing the unplugged lesson first helps pupils grasp the idea behind the code.

Time	What happens	Say or ask
Lesson 1: 0–10 min Hook	Teacher performs a card dance.	<i>“What are the steps?”</i>
10–30 min Design	Pairs write and perform dances.	<i>“Where can you repeat?”</i>
30–40 min Debug	Swap and follow exactly.	<i>“Where did it go wrong?”</i>
Lesson 2: 0–30 min Code	Recreate in Scratch.	<i>“Which block matches each card?”</i>
30–40 min Compare	Unplugged versus coded.	<i>“What was the same?”</i>

CHALLENGE CARD (print or copy onto the board)

Design a dance algorithm with a repeat, debug it unplugged, then code it in Scratch so the sprite matches your paper version.

ACTIVITY 01 · FACILITATOR NOTES

The teaching know-how in brief

Unplugged activities teach computing ideas without devices. Once pupils understand sequence and repetition physically, coding becomes translating an idea they already know.

Scratch, developed at MIT, is a free block-based environment. Blocks snap together, so pupils focus on logic rather than typing, and teacher accounts help manage classes.

Common ideas to listen for

- “Coding is only on computers.” Algorithms exist first on paper.
- “The sprite knows what I mean.” It follows blocks exactly.
- “Repeats are just shortcuts.” They show a pattern.

Adapting the activity

Support

Use four move cards only.

Stretch

Add a second sprite dancing in sync.

WORKSHEET 1

Dance algorithm

Name: _____

Class: _____ Date: _____

Write your dance.

Dance algorithm

Step	Move
1	
2	
3	
4	
5	
6	

WORKSHEET 2

Cards to blocks

Match cards to Scratch blocks.

Cards to blocks

Card	Scratch block
1	
2	
3	
4	

WORKSHEET 3

Compare

Unplugged and coded.

What was the same and what was different

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight pupils; copy as needed.

Pupil	Uses repeat	Debugs	Translates to code

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

Unplugged, Then Scratch is a sample activity from the EduTrend Contents Edutech STEM Resources for Teachers programme (primary, level: foundation). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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