

LESSON 10

A Dancing Cat and Bat

30 minutes

My First Coding Adventure

WHAT THIS LESSON DOES

In this step-by-step lesson, students will learn how to create a fun dance party animation with a cat and a bat using Scratch. They will learn how to add characters, control their movements, and add a backdrop to their animation.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Students will understand how to create a new project in Scratch and navigate its interface.
- Students will learn how to add sprites from the Scratch library and control their movements using code.
- Students will develop the ability to start, pause, and control the execution of their program.
- Students will gain knowledge on how to add and manipulate multiple sprites in a single project.
- Students will learn how to add and change the backdrop of their Scratch project.
- Students will develop a positive attitude towards coding and understand its creative potential.

BEFORE THE LESSON

- Open and test scratch.mit.edu on class devices; check the school filter allows it.
- One device per pupil or pair, charged and ready to use the browser.
- Projector or large screen ready if you will model Create, the sprite library and the green flag together.

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HOW THE LESSON RUNS

Introduction

Create a new Scratch project

Let's Make the Cat Dance

Let's Pause the Dancing Cat

Bring a Bat to the Party

Where's My Code Gone?

Make the Bat Dance

Adding a Beautiful Backdrop

Celebration Time

TEACHING MOVES

- 1. Introduction. Frame the goal aloud: one project, two sprites, code that makes them move, and control with start and stop.
- 2. Create a new Scratch project. Lead everyone to scratch.mit.edu and Create together so each project begins with the cat already on the stage.
- 3. Let's Make the Cat Dance. Help pupils stack when green flag clicked, forever, move 10 steps and turn 15. Run it once as a class check.
- 4. Let's Pause the Dancing Cat. Name both controls: green flag starts every when green flag clicked script; the red stop halts all running code.
- 5. Bring a Bat to the Party. Model the sprite button, then the magnifying glass, then Bat. Watch for pupils still unsure about click and drag.
- 6. Where's My Code Gone? When panic starts, have them click the cat in the sprite list. Stress: each sprite holds its own scripts only.
- 7. Make the Bat Dance. On the bat only, build forever, move 10, if on edge bounce. Explain bounce as sensing the edge and turning back.
- 8. Adding a Beautiful Backdrop. Model the backdrop button and library. Let them pick freely and change it if they want a different stage.
- 9. Celebration Time. Invite one extra sprite or a small change to move or turn values. Praise start, stop and working with two sprites.

WHAT TO WATCH FOR

- Students may think: Pupils think the cat's code has been deleted when they add the bat and the scripts vanish from view. What to do: Show the sprite list: click cat to see cat code, click bat to see bat code. Code is per sprite, not shared.
- Students may think: Pupils mix up the green flag and the red stop, or expect stop to delete their blocks. What to do: Demo side by side: flag only starts green-flag scripts; red stop pauses running code and leaves blocks untouched.
- Students may think: Pupils snap the bat's bounce script onto the cat, or edit the wrong sprite's code. What to do: Before any new blocks, insist they select the target sprite in the list so its thumbnail is highlighted.

DIFFERENTIATION

- Emerging: Sit with a partner and copy the cat loop block by block while you confirm the forever stack is closed. Stay on start and stop with the cat only until green flag and red stop feel automatic.
- Developing: Use the sprite list deliberately: switch cat and bat, run, stop, then add the bounce script on the bat alone. Narrate what if on edge bounce is doing each time the bat hits a side.
- Proficient: Add a third library sprite and give it its own short forever movement. Try different move steps or turn degrees and compare how the dance path changes.