

LESSON 14

Banana Stamp

30 minutes

Coding and Creative Projects

WHAT THIS LESSON DOES

In this lesson, students will learn how to create a banana stamp using Scratch. They will learn to control the stamp with their mouse, change its colour and appearance, and clear the canvas.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand how to create and control a sprite in Scratch.
- Learn how to use the Pen extension in Scratch to create a stamp effect.
- Develop the ability to make a sprite follow the mouse pointer in Scratch.
- Learn how to use the stamp command to leave a trail of sprite images.
- Understand how to use the 'erase all' command to clear the canvas.
- Learn how to change the colour and appearance of the sprite with each click.

BEFORE THE LESSON

- Open and test scratch.mit.edu on the school network before the lesson.
- One device per pupil or pair, with mice if clicking small sprites is awkward on trackpads.
- Sound is not required for this lesson.

Banana Stamp

HOW THE LESSON RUNS

Introduction

Create a new project

Add the Banana sprite

Add the Pen extension

Make the Banana Follow Your Mouse

Stamp the Banana

Clear the Canvas

Change Colour of the Banana Stamp

Change Banana Stamp Appearance

Congratulations, You're Done!

TEACHING MOVES

- 1. Introduction. Show the end idea in one line: a banana that follows the mouse and leaves coloured stamps wherever they click.
- 2. Create a new project. Get everyone to scratch.mit.edu, start a new project, and delete the cat together so every screen starts blank.
- 3. Add the Banana sprite. Guide them to the sprite library and add Banana only. Check every project has that one sprite before moving on.
- 4. Add the Pen extension. Point to the Extensions button bottom left. Have them add Pen and confirm the new Pen blocks appear in the palette.
- 5. Make the Banana Follow Your Mouse. Build when green flag clicked, forever, go to mouse-pointer on the banana. Run it and have them move the mouse to prove it tracks.
- 6. Stamp the Banana. Add when this sprite clicked, then stamp. Stress they must click the banana itself. Watch for a still copy left behind.
- 7. Clear the Canvas. Add when space key pressed, erase all. Have them stamp a few bananas, then press space so the stage clears without refreshing.
- 8. Change Colour of the Banana Stamp. On the same click script, add change color effect by 25 after stamp. Click repeatedly so each new stamp shifts colour.
- 9. Change Banana Stamp Appearance. Add change whirl effect by 25 on the click script. Invite quick tries of ghost, brightness, pixelate or mosaic from the list.
- 10. Congratulations, You're Done! Celebrate the working stamp. Invite one extra tweak only if time allows, then stop on a save rather than a rush of new features.

WHAT TO WATCH FOR

- Pupils click the stage or backdrop and wonder why stamp never runs. Remind them the hat block is when this sprite clicked. Have them click the banana body, not empty stage space.
- They expect stamp to freeze the live banana, or confuse the moving sprite with the printed copies. Say stamp leaves a picture behind while the real banana keeps following the mouse. Clear with space to show the difference.
- Colour or whirl seems broken because they added the effect blocks on a separate script from stamp. Check that stamp and the change-effect blocks sit under the same when this sprite clicked stack, in that order.

DIFFERENTIATION

- Emerging: Pair them with a partner and complete green-flag follow-mouse plus one stamp click before any effects. Stay beside them for the Extensions step so Pen is added once and they can see the new category.
- Developing: Ask them to run and test after each stack (follow, stamp, erase) before stacking colour on top. Have them say the click script aloud: stamp, then change colour, then change whirl.
- Proficient: Challenge them to try ghost, brightness, pixelate or mosaic from the lesson list and compare results. Ask them to explain to a neighbour why erase all is better than refreshing the page.