

Weighted Bounce

60 minutes

Introduction to Animation

WHAT THIS LESSON DOES

In this lesson, you'll create a realistic bouncing animation using Wick Editor. Animate a ball falling, bouncing with decreasing height, and stopping. Learn timing and gravity to make movements feel natural and lifelike.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the principles of timing and gravity in animation to create realistic motion.
- Develop skills in using Wick Editor to build a bouncing animation.
- Apply techniques like onion skinning to ensure smooth and consistent frame transitions.
- Create a sense of weight and energy loss through varying bounce heights and speeds.
- Refine animations by previewing and adjusting timing for a natural, lifelike effect.

BEFORE THE LESSON

- Open wickeditor.com in a browser and launch the Editor yourself first: check the school filter is not blocking the site and that it runs on the pupils' devices.
- One device per pupil, each able to reach the internet and save a downloaded file.
- Have a quick demo animation ready, or be prepared to model copy, paste and repositioning a ball across two or three frames on the board.
- Confirm pupils know how to find their downloaded GIF afterwards, or agree a shared folder for exports.

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HOW THE LESSON RUNS

Introduction
Create a New Project
Drawing Your First Frame
Copy and Paste
Using Onion Skinning
Adding Frames to Your Animation
Stretch and Squash
Continuing the Bounce
Previewing Your Animation
Save and Exporting

TEACHING MOVES

- 1. Introduction. Ask the class what a real ball does after it drops: does it bounce forever? Draw out that each bounce is lower. That decreasing height is exactly what they are about to animate.
- 2. Create a New Project. Have everyone reach a blank canvas before moving on. Leave frame rate at the default so no one is stuck on settings.
- 3. Drawing Your First Frame. Insist on a solid dark colour and a ball placed top-left with room to fall. Remind them a rough circle is fine; the movement matters more than a perfect shape.
- 4. Copy and Paste. Model copy then paste onto a new frame once on the board. Point out this keeps every ball the same size, which redrawing would not.
- 5. Using Onion Skinning. Show the faint outlines of neighbouring frames and explain they are a guide, not part of the animation. Pupils use them to line up the ball's path.
- 6. Adding Frames to Your Animation. Stress uneven spacing: small drops at the top, bigger gaps near the bottom. That widening gap is what makes it look like gravity, not a slow glide.
- 7. Stretch and Squash. Demonstrate the Transform tool stretching the ball tall just before impact and flattening it wide on landing. Keep the ball's area roughly the same so it still reads as one ball.
- 8. Continuing the Bounce. Each bounce should reach lower than the one before with gentler squash. Walk round checking heights are shrinking, not staying equal.
- 9. Previewing Your Animation. Have them switch onion skinning off first, then play. Ask them to name one frame that jumps or drags and add or nudge a frame to fix it.
- 10. Save and Exporting. Check everyone renames the file with the lesson name and their own name before exporting the GIF, so finished work is identifiable.

WHAT TO WATCH FOR

- Pupils space every frame the same distance apart, so the ball drifts at a constant speed and looks like it is floating rather than falling. Compare a constant-spacing version with a widening-gap version on the board. Ask which looks like it is being pulled down, then have them stretch the gaps near the bottom.
- Each bounce returns to the same height, so the ball never loses energy and appears to bounce forever. Ask them how high the second bounce of a real ball goes compared with the first. Guide them to make each peak about half the last until the bounces fade out.
- Pupils think onion skinning outlines will appear in the finished animation and try to erase them. Reassure them the faint frames are only a drawing guide. Show that turning onion skinning off and pressing play reveals the clean animation.

DIFFERENTIATION

- Emerging: Pair them with a partner and start them with just a fall and a single bounce before attempting more. Model the copy, paste and reposition cycle for one frame directly on their device so they can repeat the pattern.
- Developing: Prompt them to check their frame spacing widens towards the bottom before adding more bounces. Have them talk you through what happens frame by frame to confirm they understand the energy loss, not just the clicks.
- Proficient: Challenge them to end the animation with the ball rolling off the screen rather than settling still. Ask them to add subtler stretch and squash on the later, smaller bounces so the effect fades as the energy does.