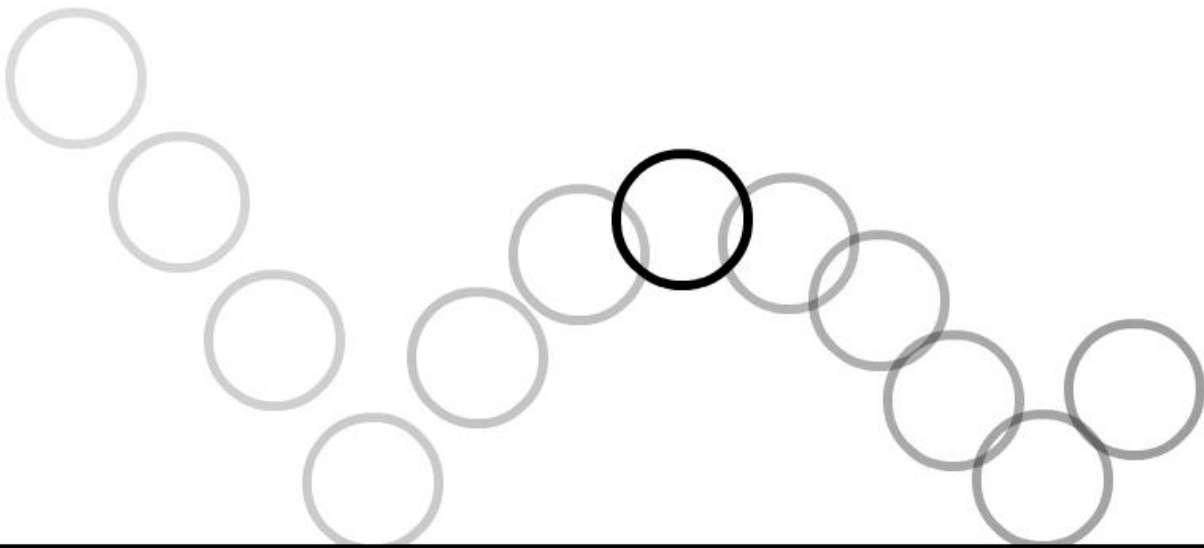


Instruction Manual

How to Animate a Ball Bouncing in Adobe Flash

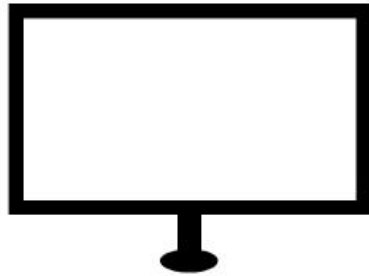


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Required Materials



A PC, a laptop, or any device that can run Adobe Flash is required.



Any version of Flash will work, but for this manual, CS3 will be used. Newer versions have more tools.



A drawing tablet is preferred, but it is not necessary. A mouse can be used in its place.



This symbol signifies an optional step or tip.

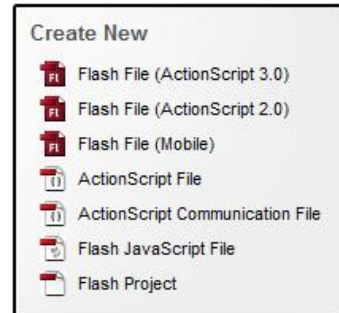


This symbol signifies a warning.

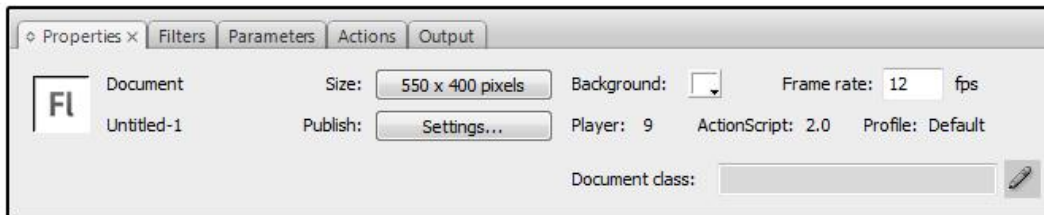
Getting Started

1. First, create a file.

The first option and the second option both work. The only difference is their programming language, which is irrelevant for animating a ball.



2. Set the properties.



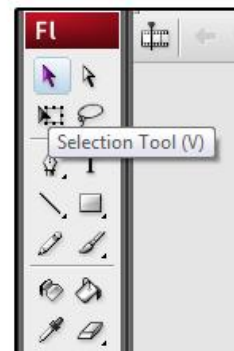
Here, many things can be adjusted: the size of the canvas, the background color, and the frame rate. The frame rate is the most important thing, as it will decide how fast the animation is played.



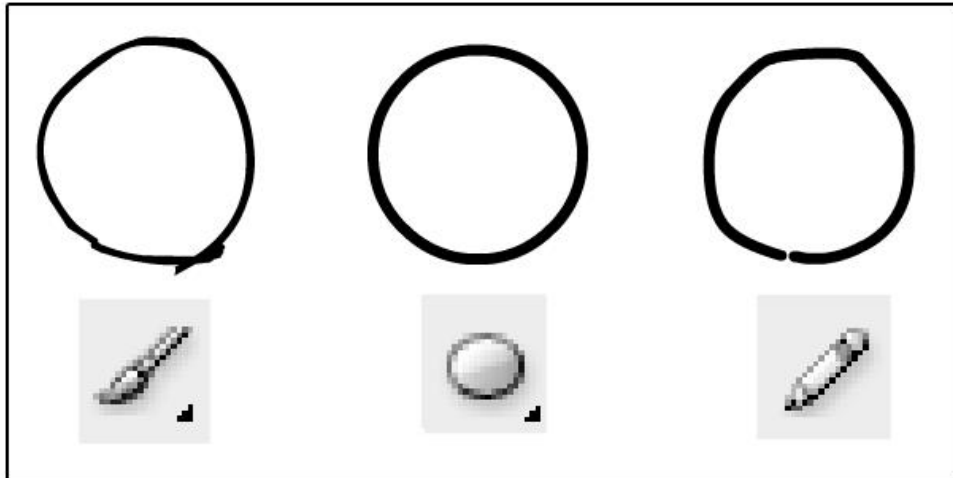
If it's too high or too low, it will become impossible to work with. A comfortable range is 8 to 30 fps.



This specific panel will not be shown if the Selection Tool is not selected. Be sure to check the Tools panel.



3. Select which Tool to draw with.



The ball needs to be drawn, and the method to do so will decide the style of the animation and the ease of drawing each frame.

A brush tool will offer flexibility, and with a tablet, it can change thickness depending on pen pressure.

The oval tool can produce quick, clean shapes, good for when only a mouse is available.

The pencil tool can offer both flexibility and clean, easy-to-manipulate lines.



A picture copy and pasted in can also be used instead. It might be clunky to work with, but it is an option.

Animating

4. Create the first frame.

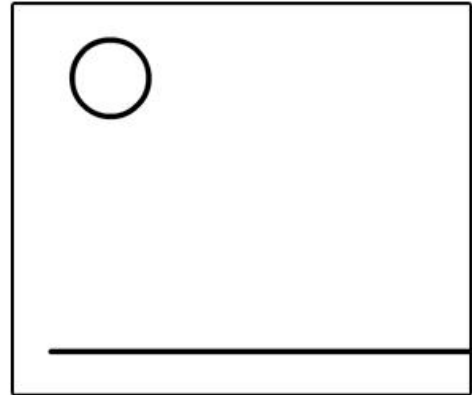
Draw the ball, and then a surface for it to interact with. New layers can be made using the flipping page icon. Place the ball and the surface on two different layers.



Instead of drawing a surface, the edges of the canvas can be used instead.



Layers can be locked. This should be used to make sure the ground layer is not disturbed.

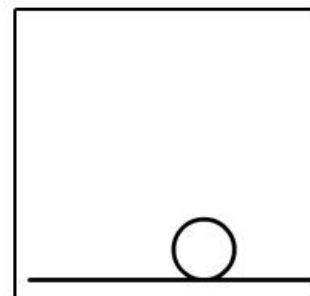
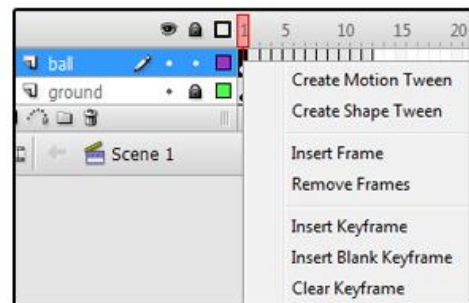


5. Create new frames.

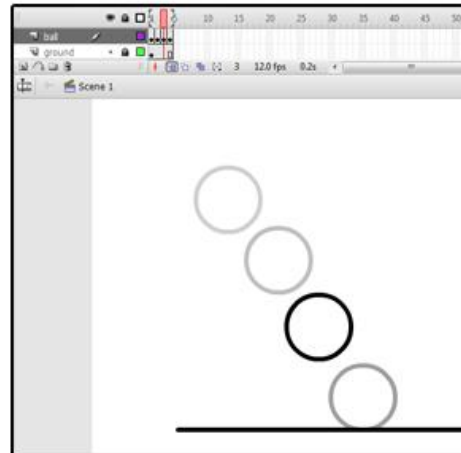
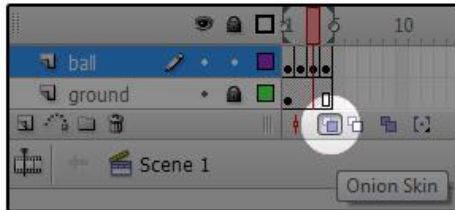
Each frame will have a different image. Animation is just a combination of multiple different images.

In the timeline, create new frames and draw the ball in different positions. How many frames and how slowly the ball travels depends on the FPS set in the properties panel.

“Insert Frame” can be used to extend frames to slow down the animation. Depending on the drawing tool, creating a fresh new keyframe could be easier than copying the old one.



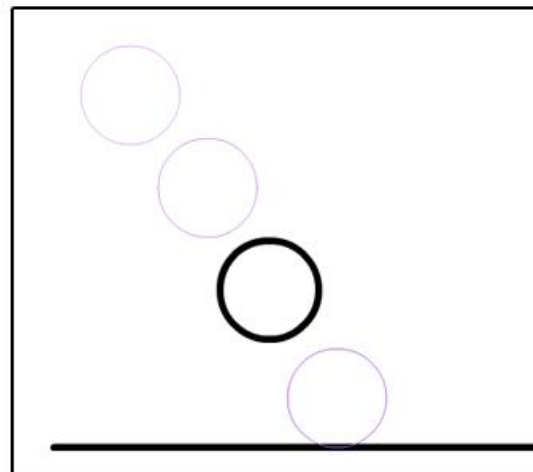
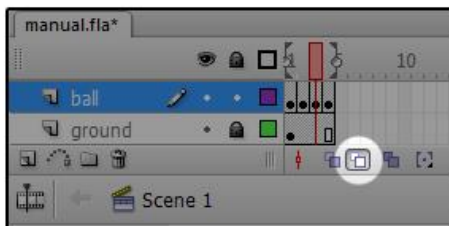
6. Use "Onion Skin".



Instead of going back and forth constantly between frames, Onion Skin can be toggled on in order to see what's drawn before and after the current frame. The sliders on the timeline can be adjusted to change how many frames are visible on the canvas.

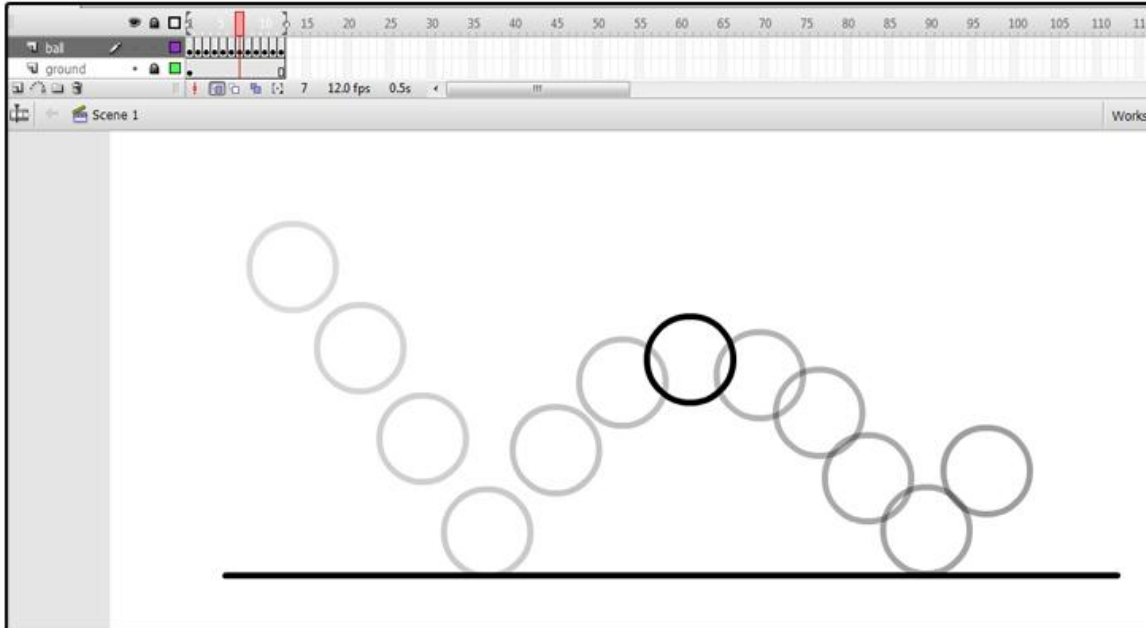


Beside the Onion Skin tool is the Onion Skin Outline. Depending on the tool used to draw, this option could be cleaner and more visible.

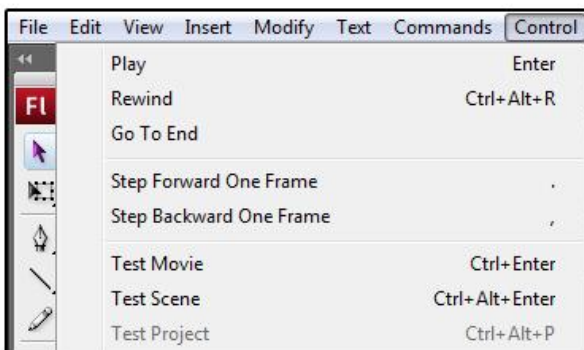


Finishing Up

7. Correct mistakes.



When the number of frames is satisfactory, go back and check if there are any mistakes. The Onion Skin tool is helpful for easily locating any awkward movements. A better method would be to simply play the video and see how it is in motion.



Do not just hit play. It will not always play in realtime, but at the rate your computer renders each frame. Test Movie is more reliable.

With that, the process is complete. The animation can be watched using Flash or in a format of one's choice by exporting it using Files > Export > Export Movie.