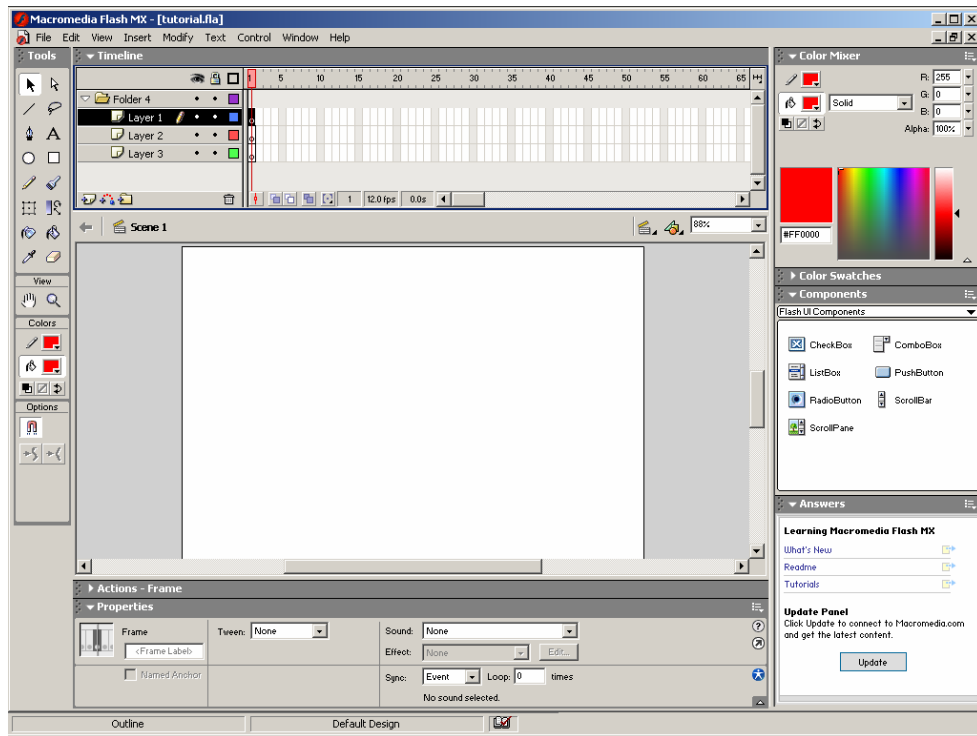
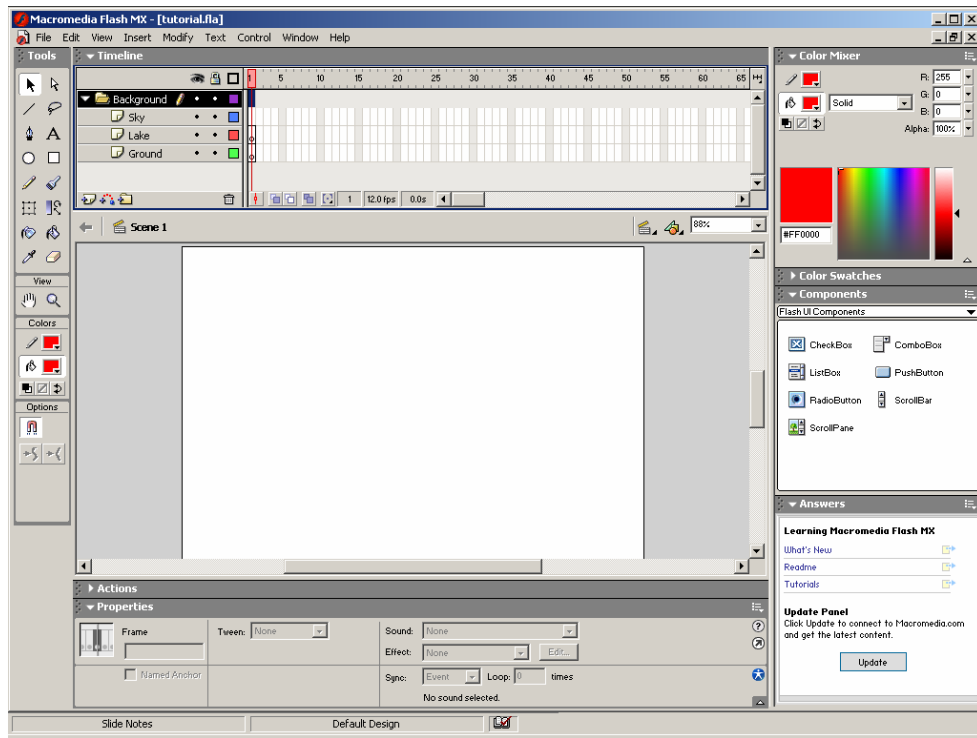


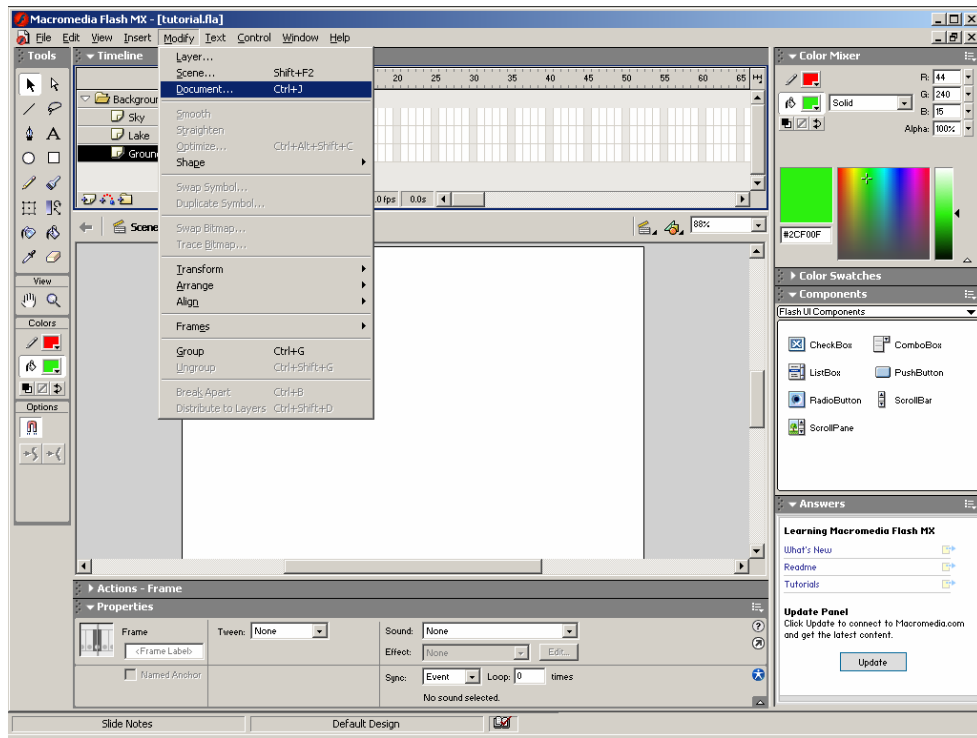
As in everything you do, the first step should be to save your file with a meaningful name.



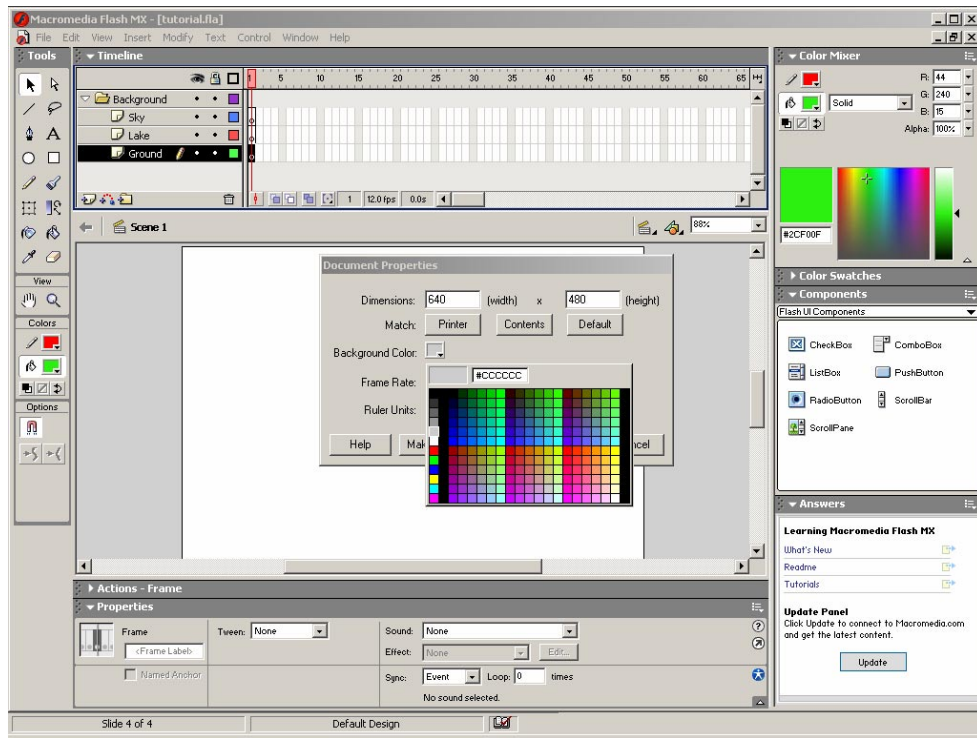
Many of the drawing tools in Flash resemble those in Illustrator. In the “Timeline” window (accessible from the Window menu if not already visible), we can create multiple layers in our document. These layers can be arranged vertically to control what appears above or below what. Grouping layers is probably a good thing to do, so that you don’t end up with way too many layers in a great big list.



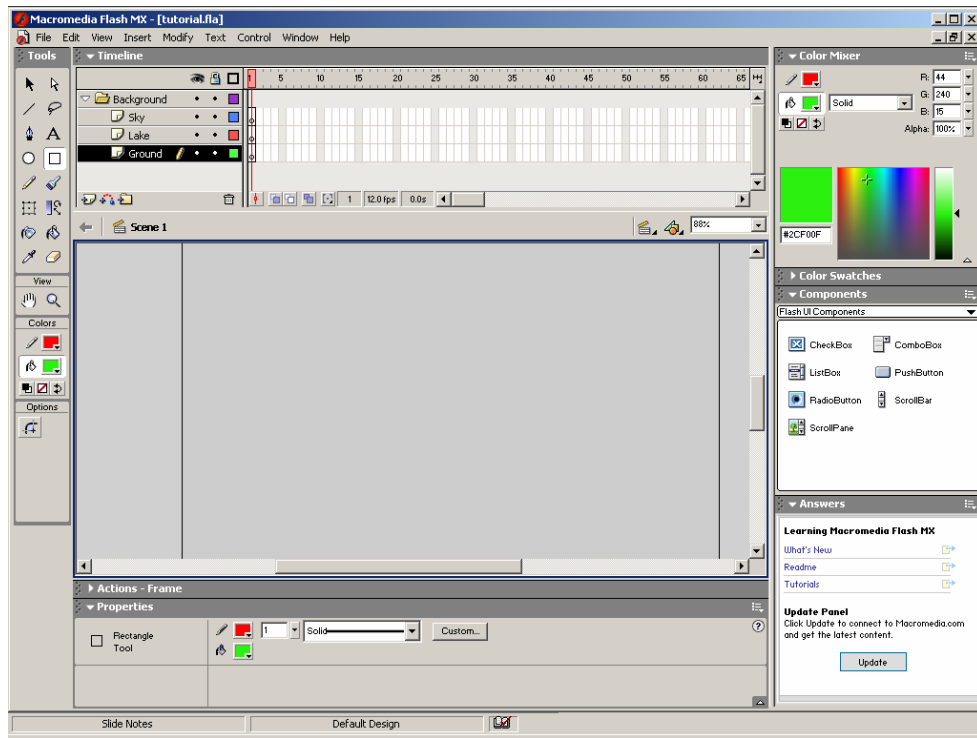
I have named my folder “Background” and its three layers “Sky”, “Lake”, and “Ground”, with Sky being the topmost layer.



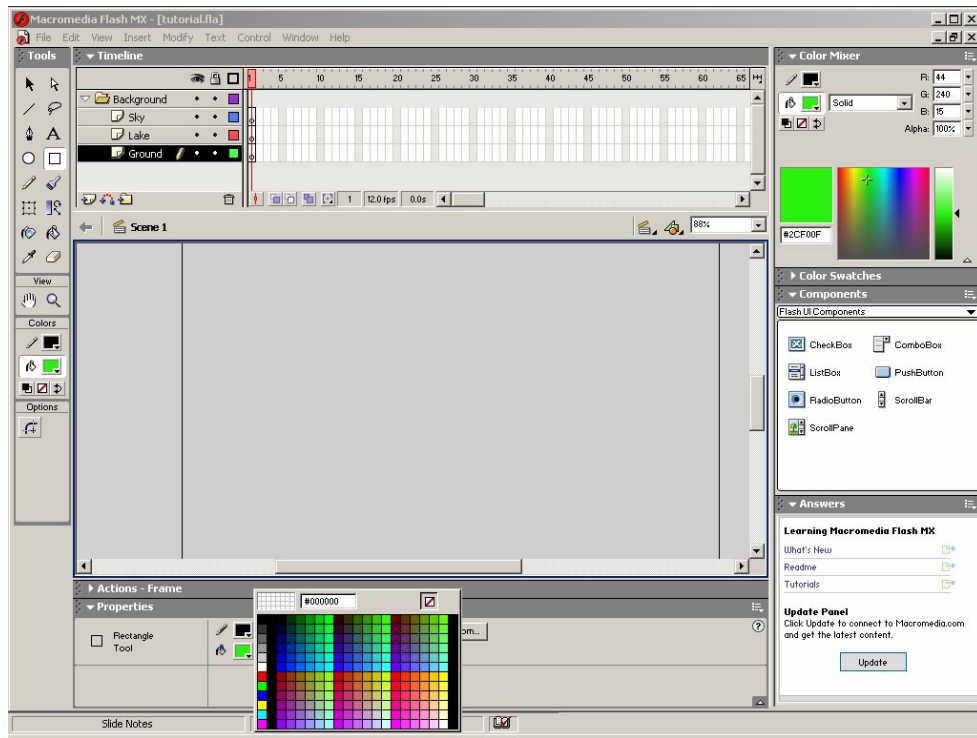
To change the overall size of our stage, select Modify->Document.



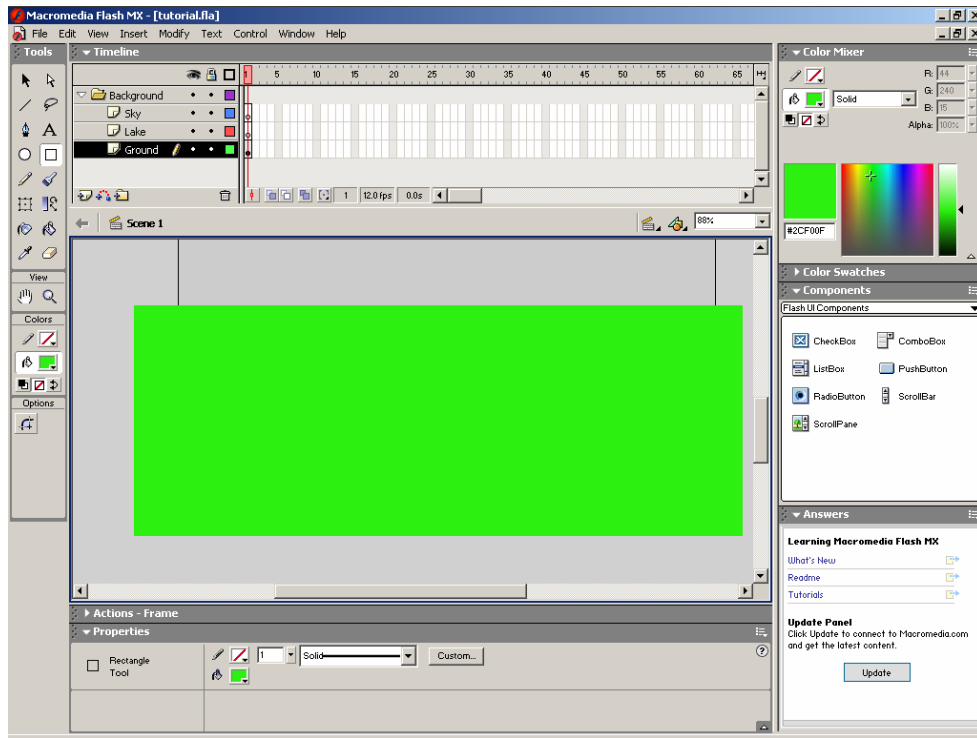
We will use a 640x480 stage, and will select a gray background.



To draw our ground, select our ground layer and then the square tool from the tools window.

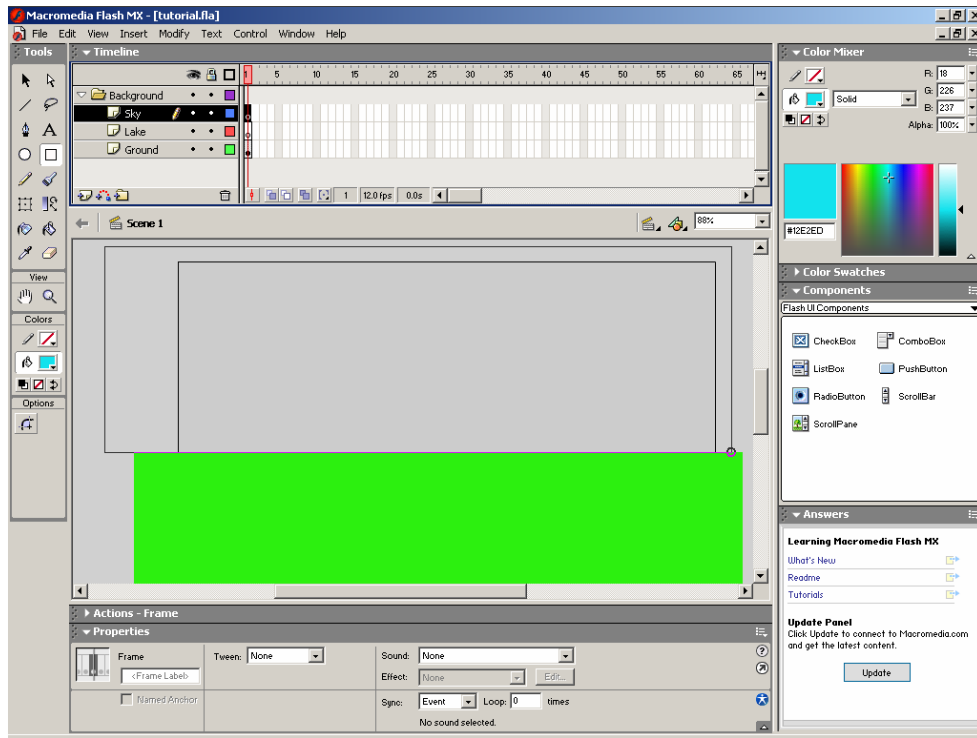


To indicate that we do not want a border on the rectangle we draw, select the stroke color box from the properties window at the bottom of your screen. The white box with the red line through it represents “none”.

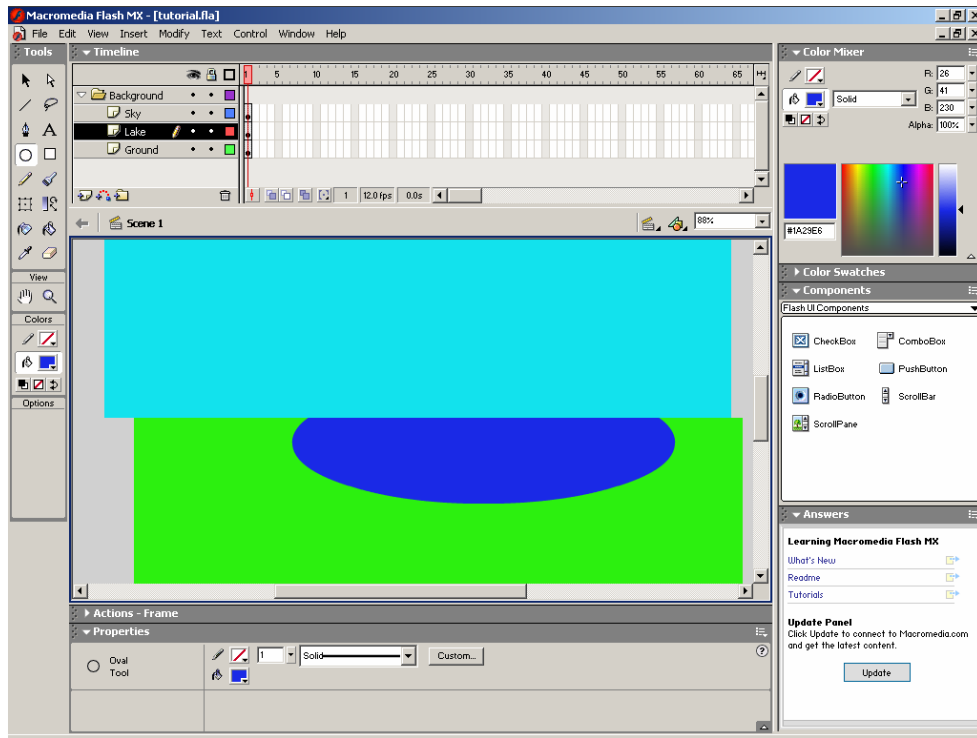


Draw a large green rectangle across the bottom half of your stage, not worrying about staying “inside the lines”.

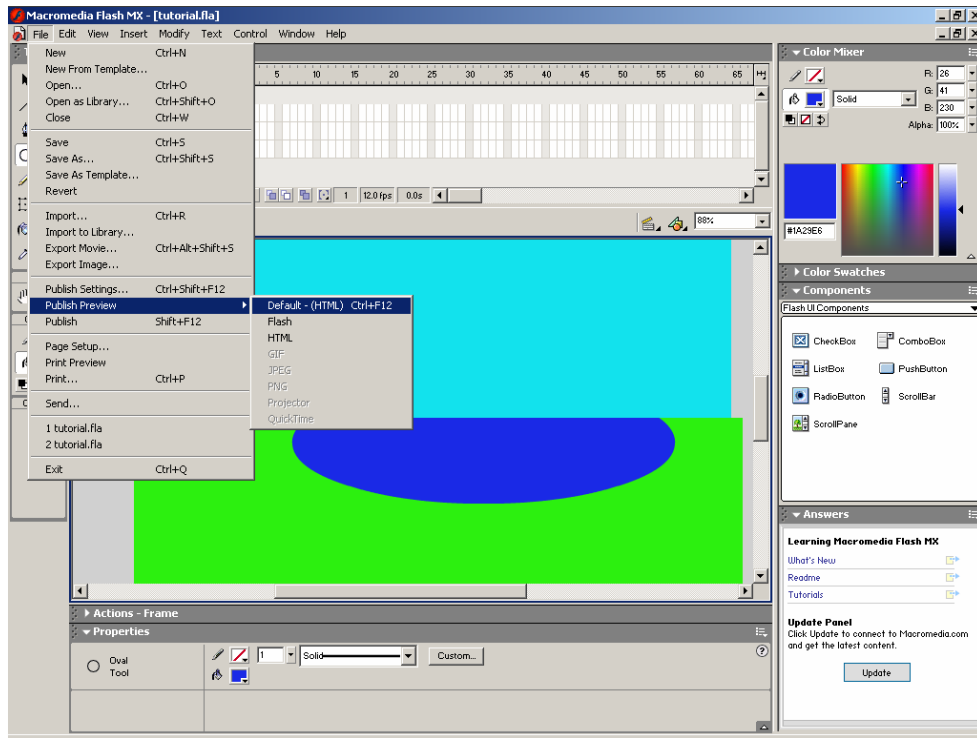




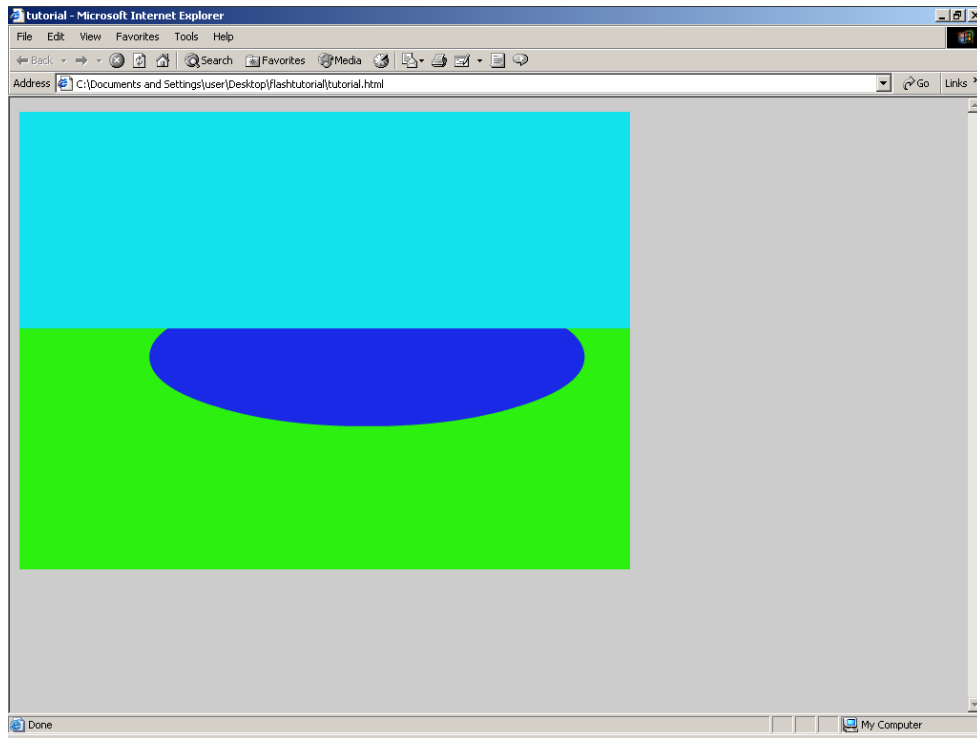
Selecting your sky layer, draw a large light blue rectangle for the sky. Note how Flash will “grab” your cursor when you are near the edge of your other rectangle.



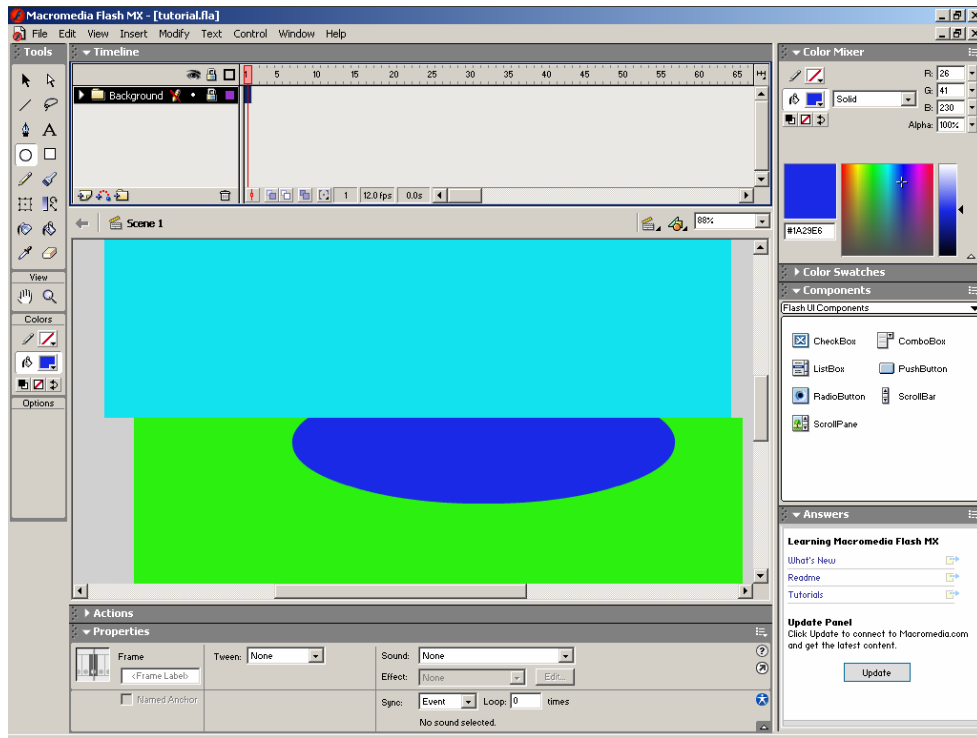
Similarly create a light blue sky and a dark blue lake.



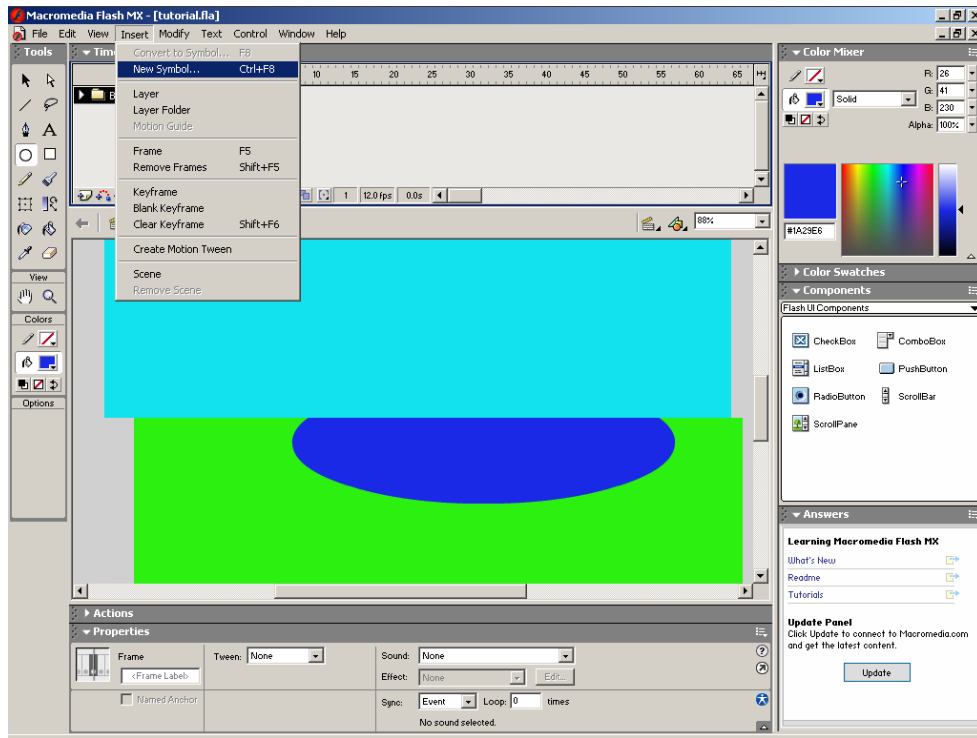
The File->Publish Preview menu option will create a simple web page containing your flash document.



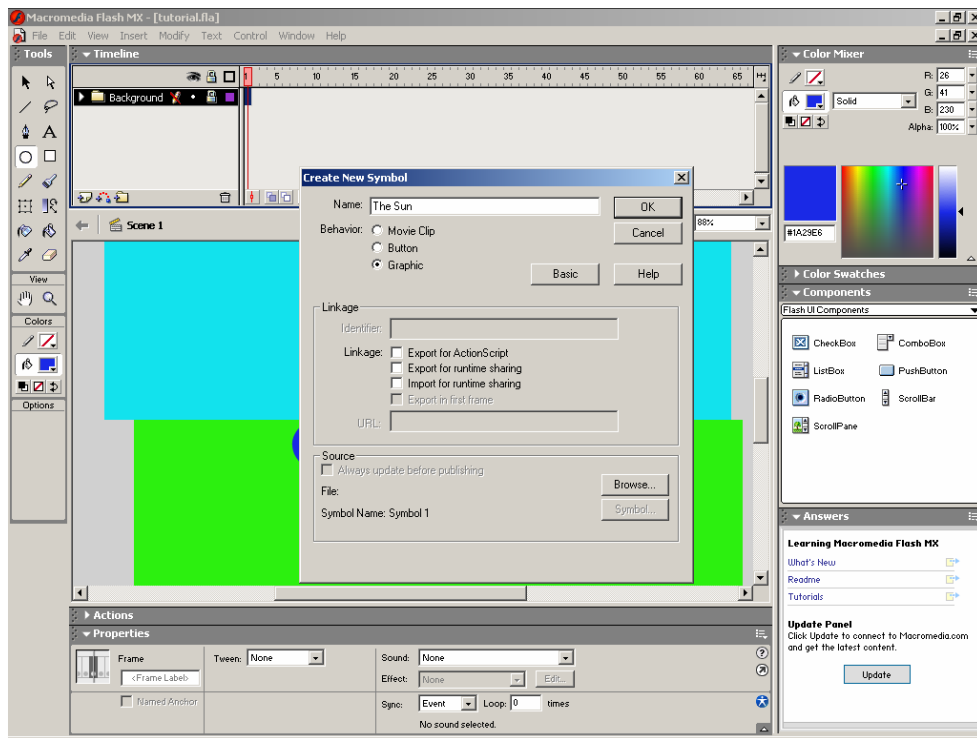
Note that your flash animation is constrained to the stage area you specified. You can get curves by drawing large circles that are only partially visible on your stage, and you don't have to spend time lining up things with the edge of your stage.



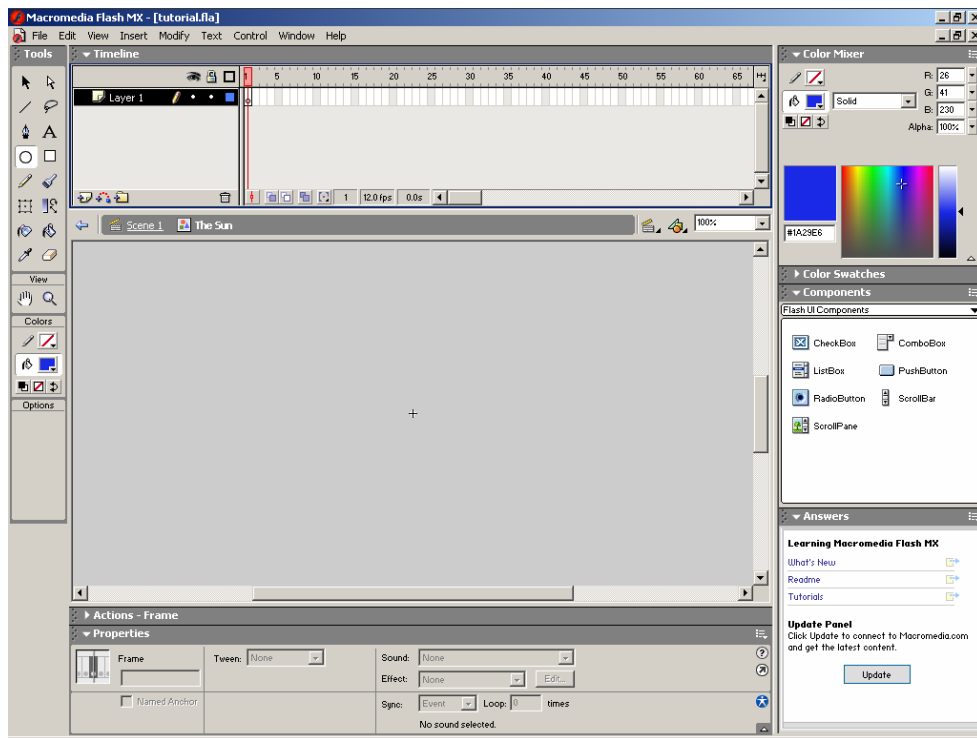
Now close and lock our background folder so we can animate in front of it.



We will now introduce symbols, which allow you to animate graphics and combine graphics.

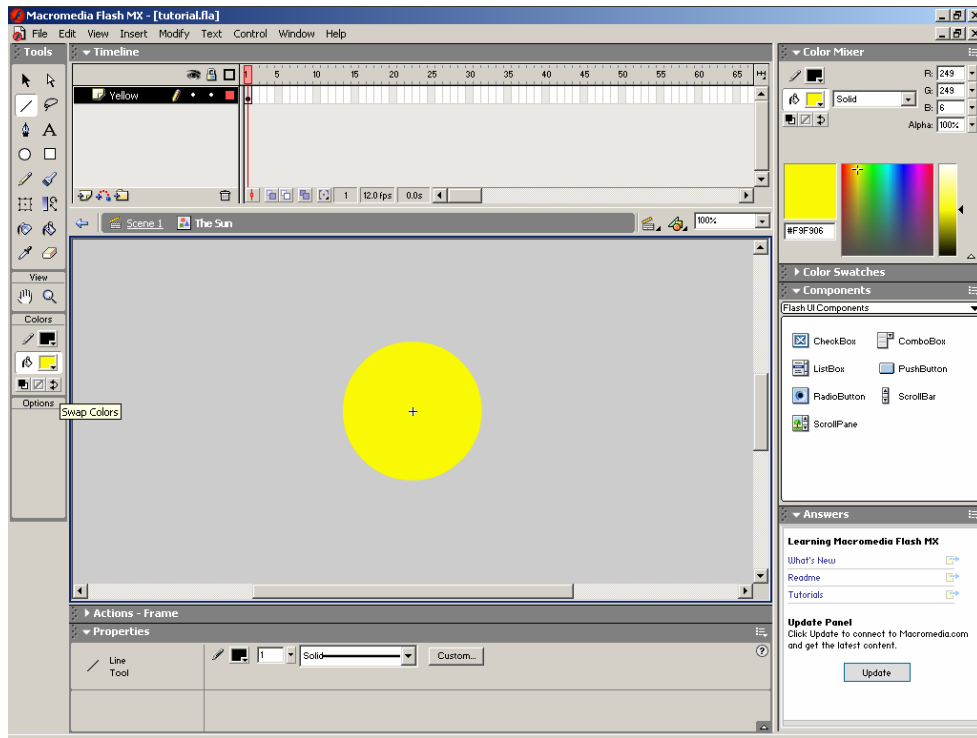


We will name our symbol “The Sun”, and specify either the Movie Clip behavior or the Graphic behavior.

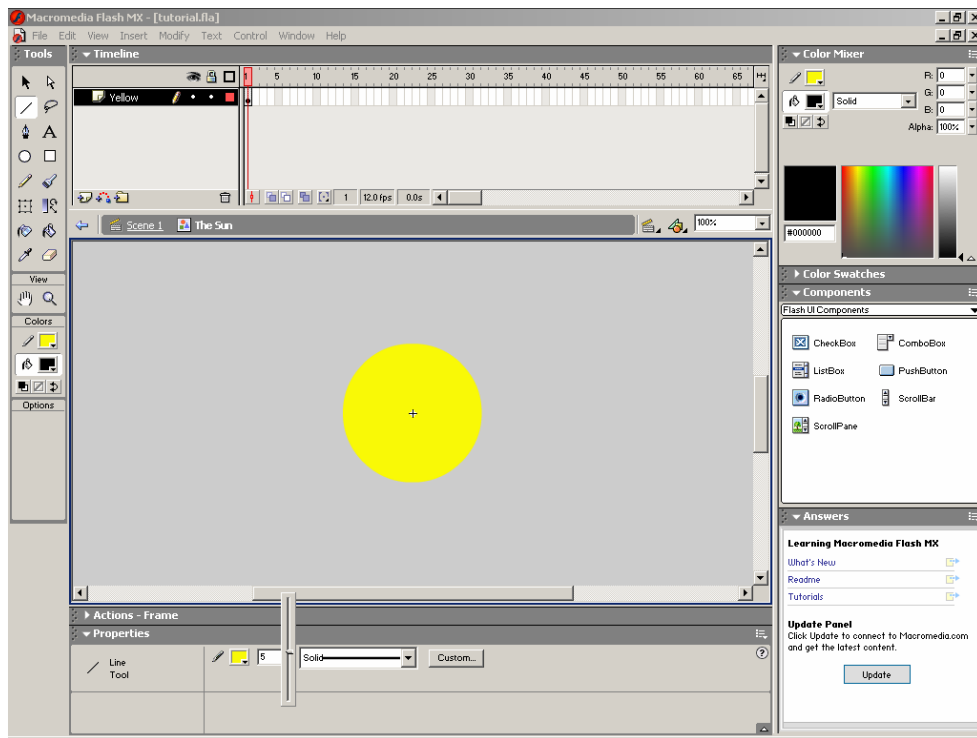


Now you might think that you just destroyed your entire project. Instead, you're editing the symbol you just created. Symbols are just like smaller movies. You can edit them in a hierarchy. Notice in the middle of the screen that Scene 1 is now a link, and The Sun is displayed. If we clicked on Scene 1, we'd go back to editing it.

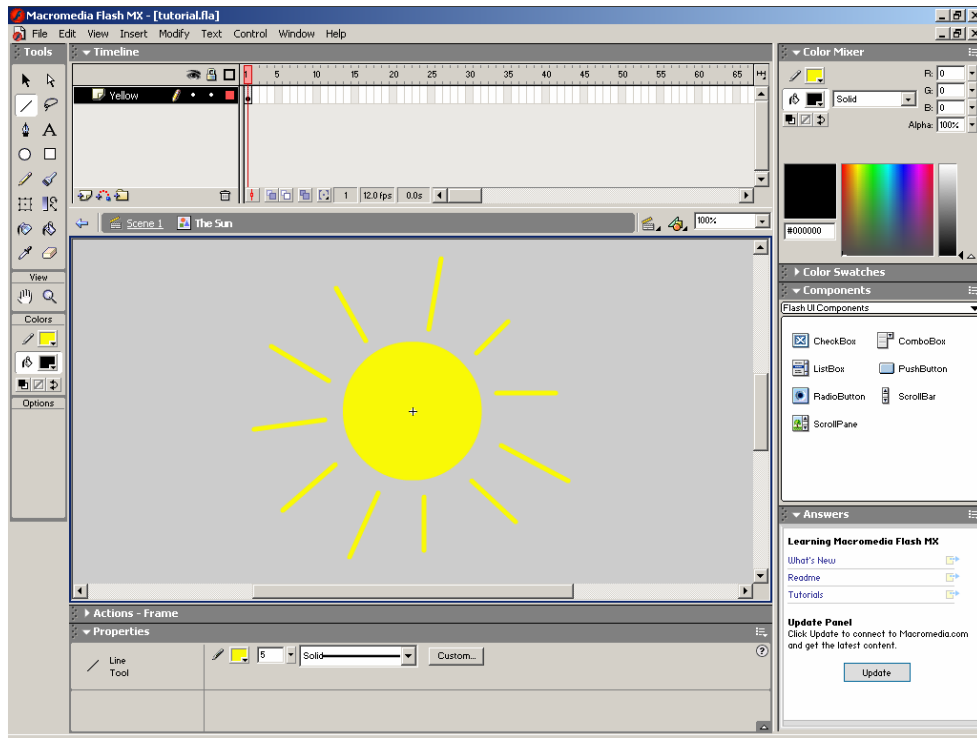




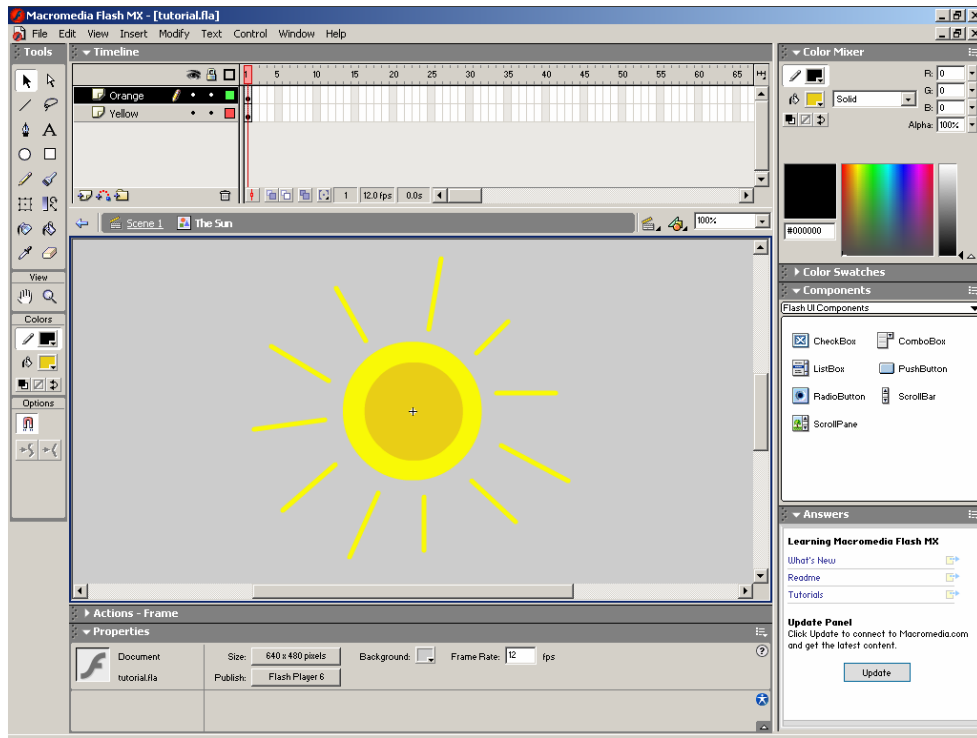
Lets draw a big yellow circle with no border as the start of our sun.



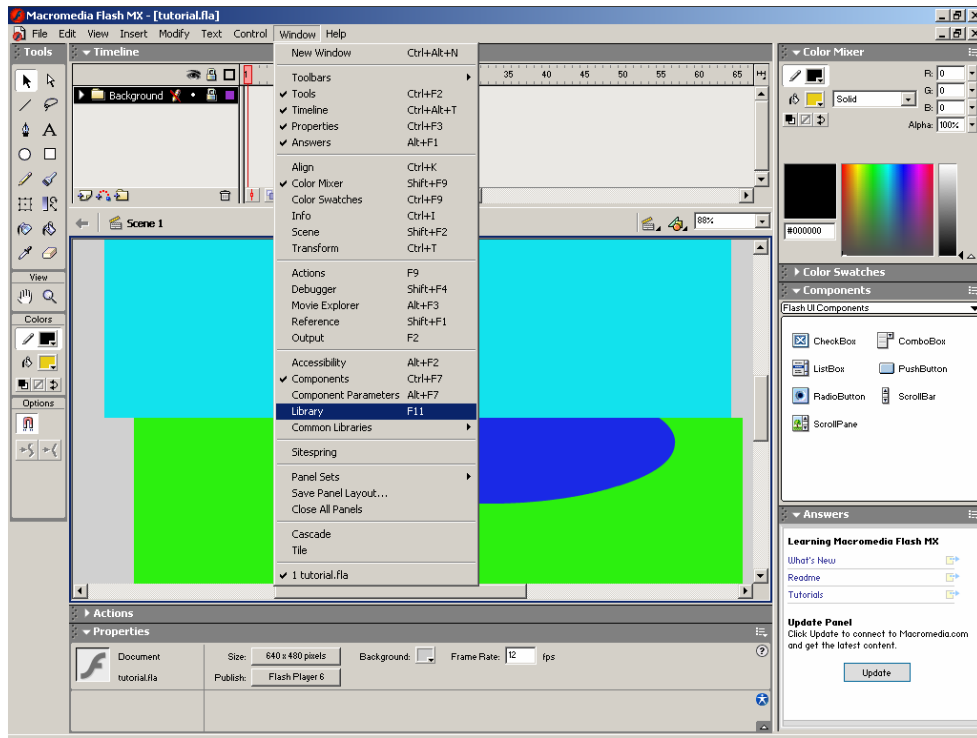
We're going to draw some sun lines, so select the line tool and edit the width of the line at the bottom of the screen.



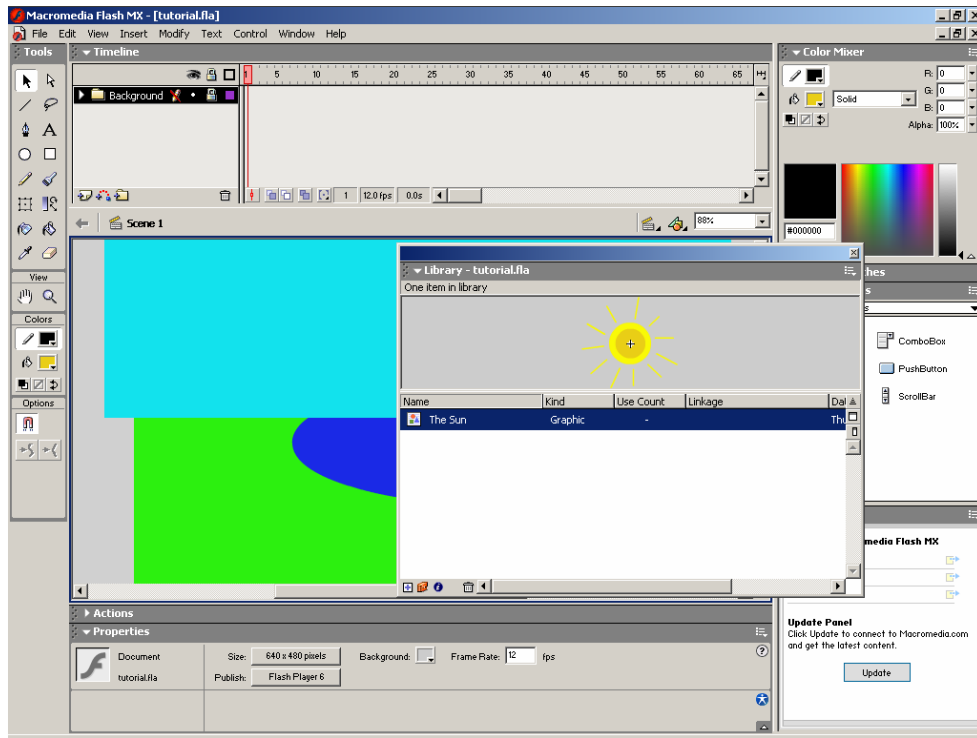
Draw in sun lines something like this.



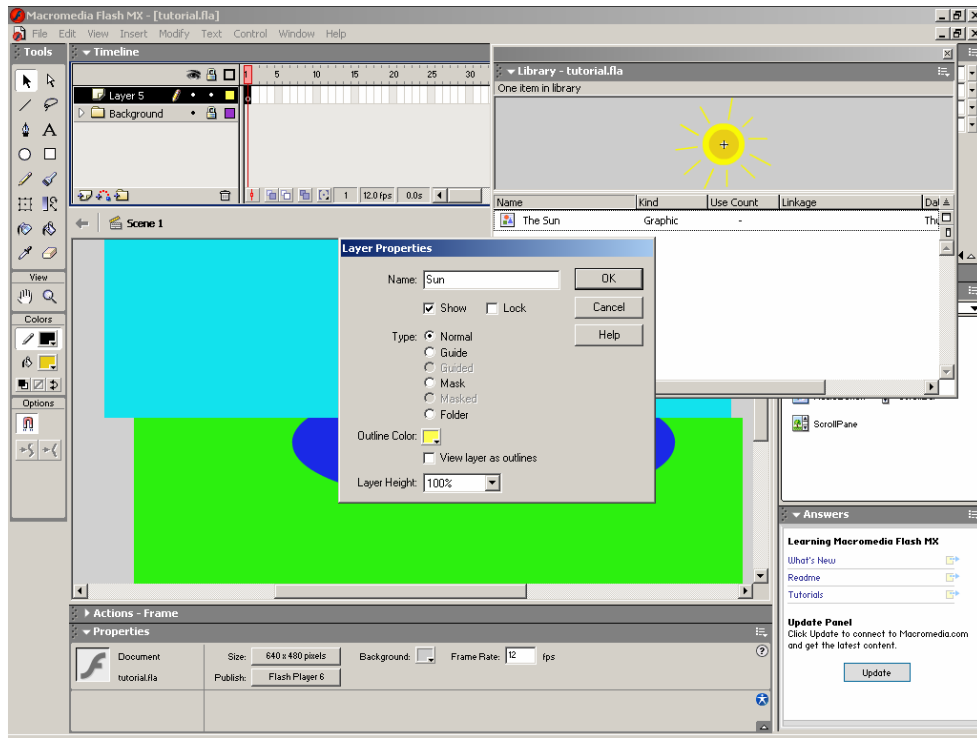
We can then create another layer, draw an orange circle in it, and position it above our yellow circle and sun lines.



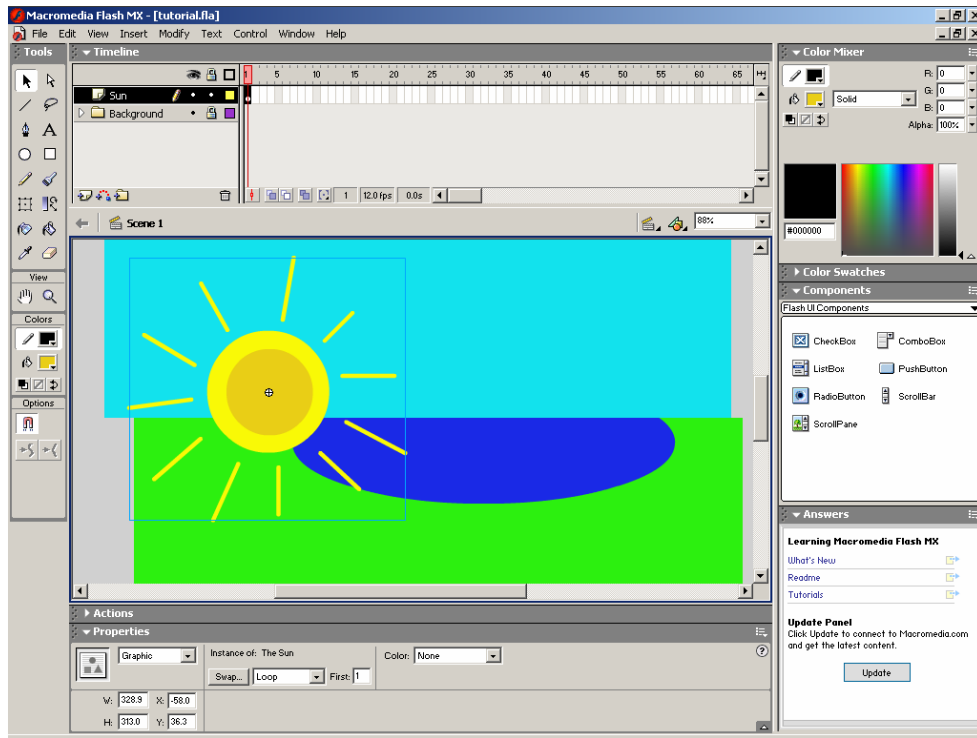
Clicking on Scene 1 brings us back to our scene. To see the symbol we created, we look in the library of our project.



There we find “The Sun”, the symbol we created.

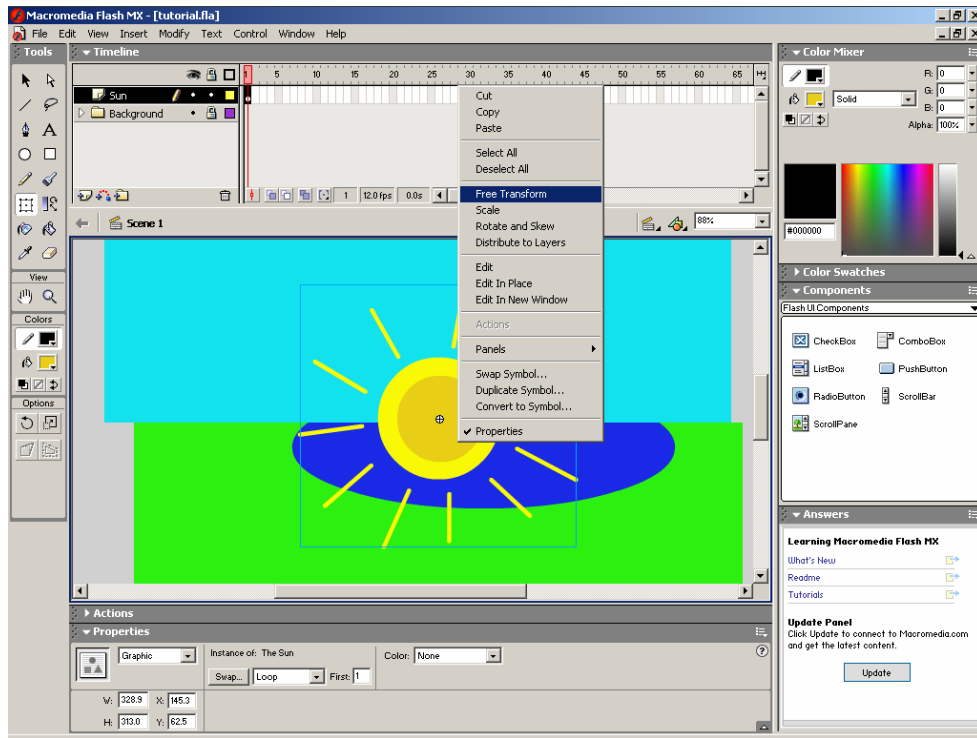


We can create a layer that we're going to use to show our sun.

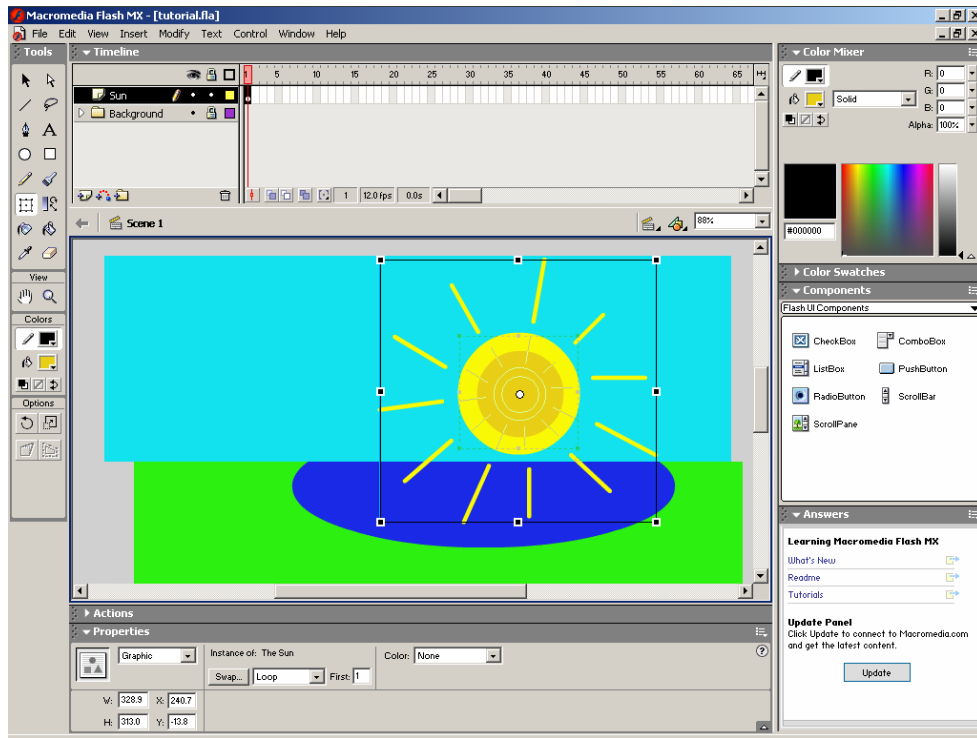


Drag the sun from the library onto the stage, and it will appear in the selected layer.

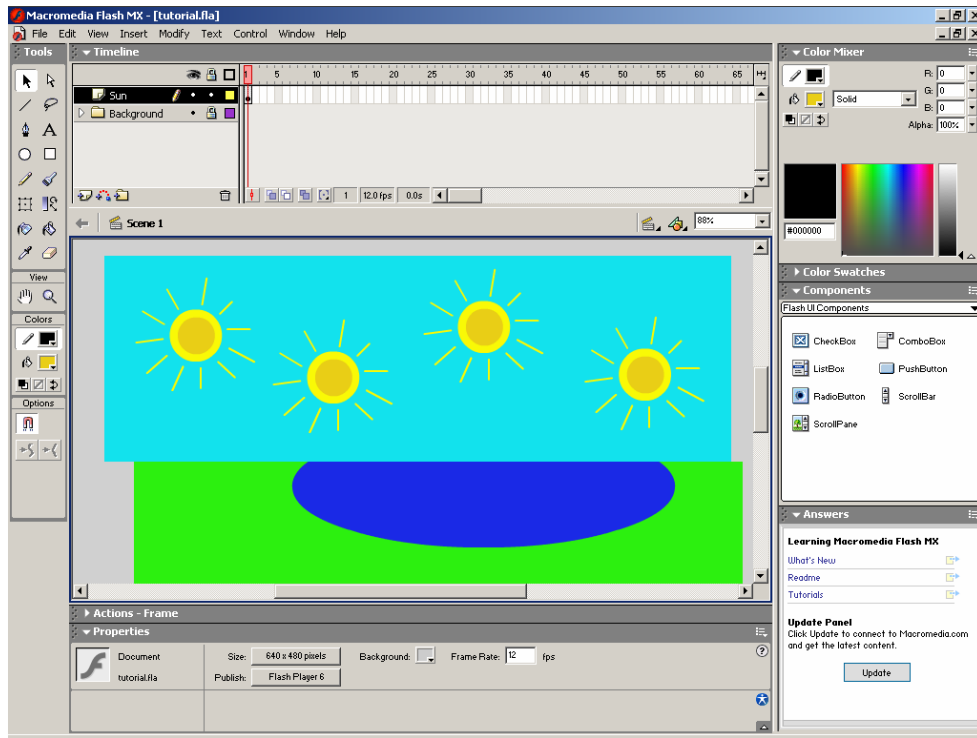




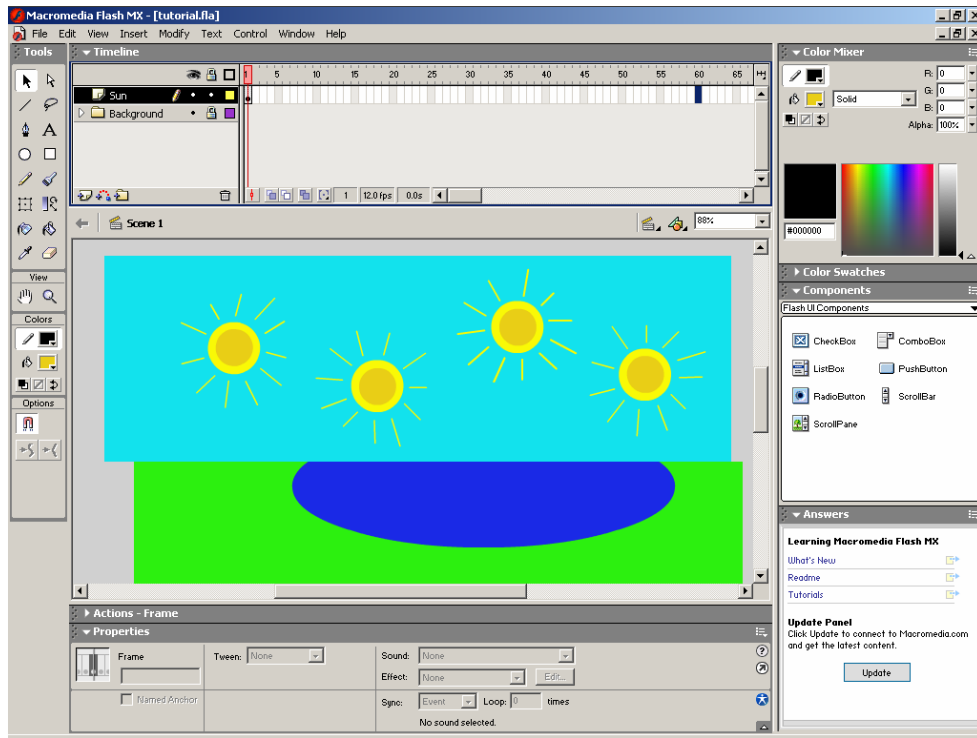
Using either the popup menu or the transform tool button, we can indicate that we want to transform our symbol.



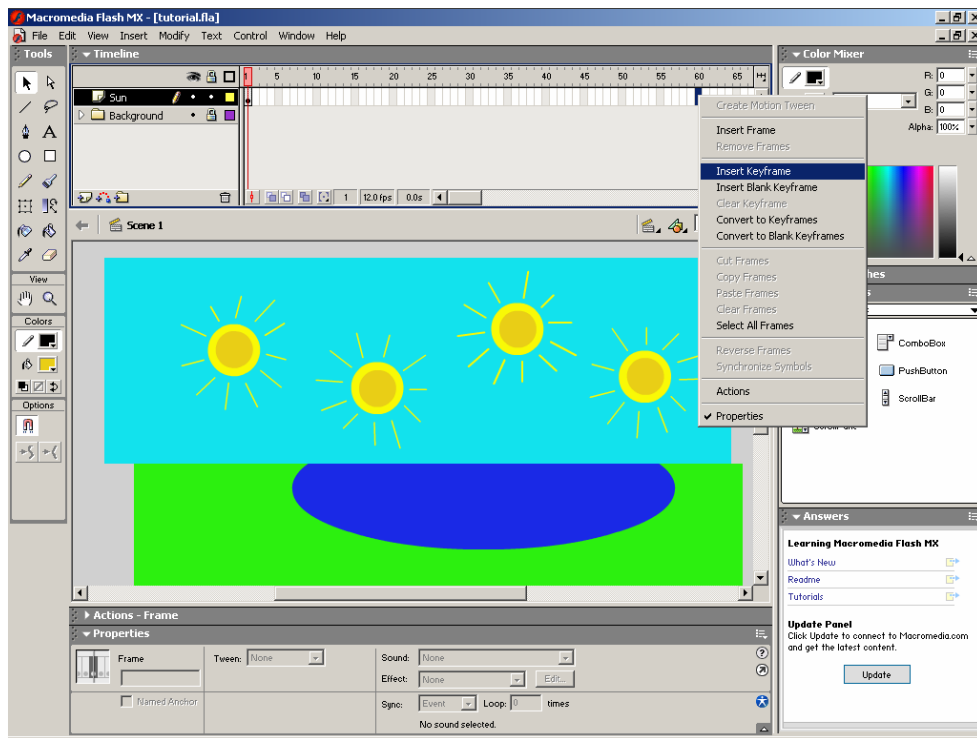
We want to scale our sun so that it's smaller, but you can also rotate, shear, etc.



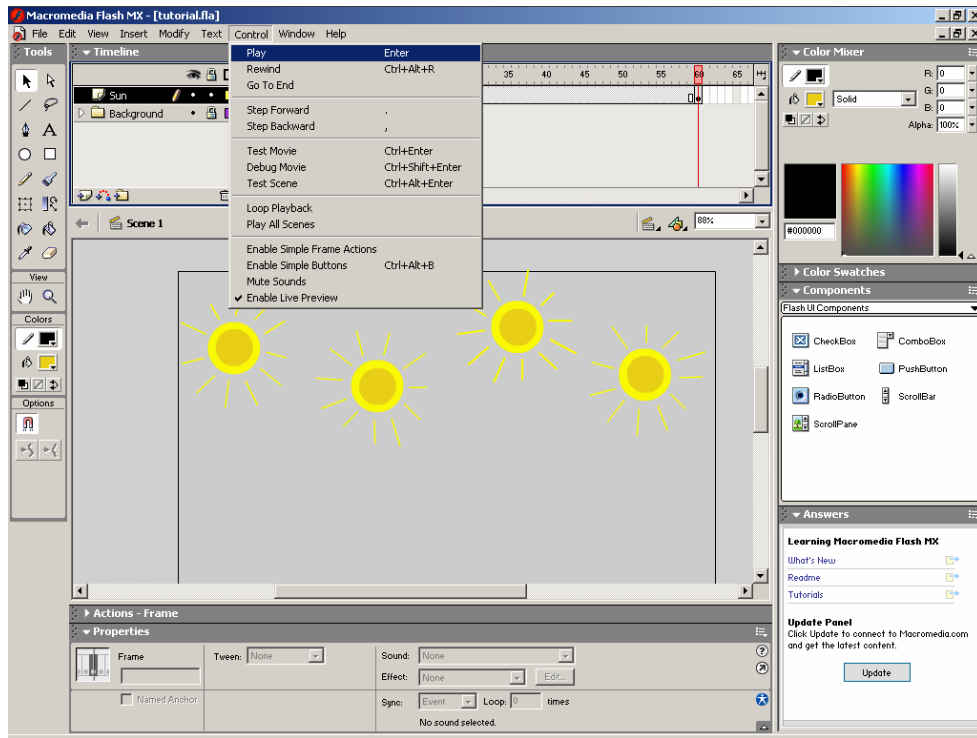
We can also copy and paste our symbol, easily creating multiple instances of a visual object that actually consists of several smaller visual objects.



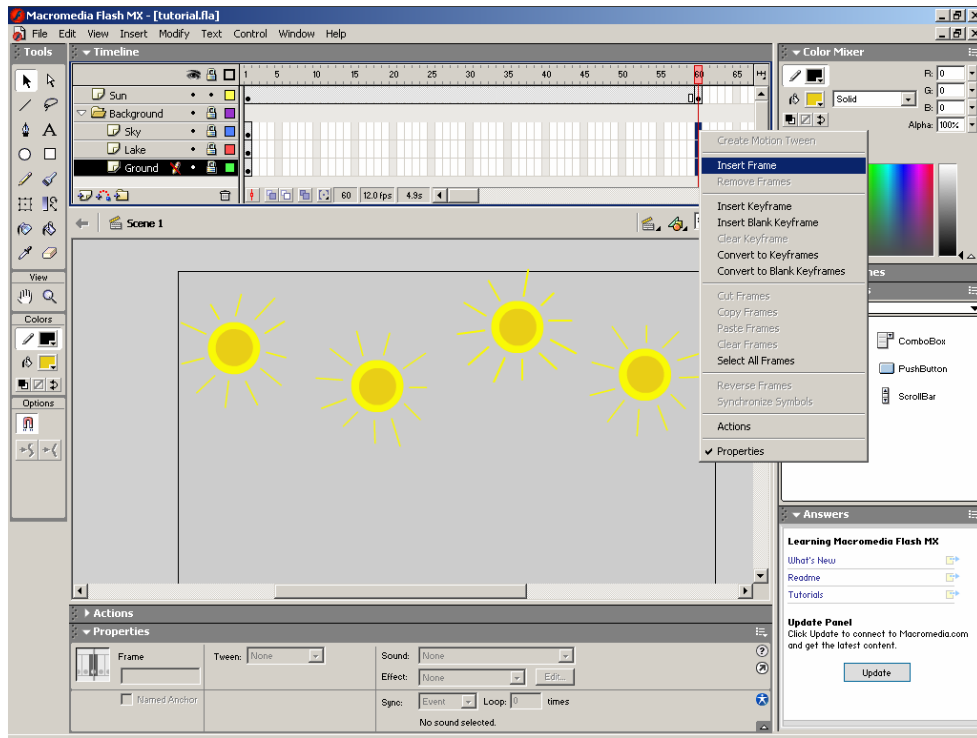
Now to start thinking about animation. Flash uses a timeline model very much like that used by Director. By default, it animates at 12 fps.



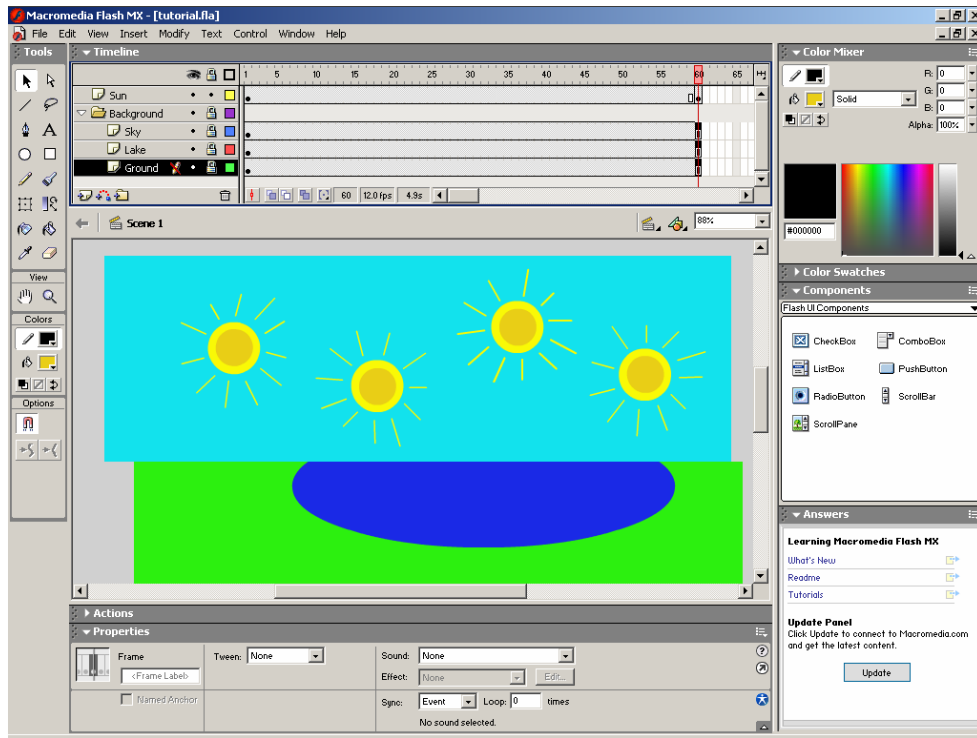
Right clicking on frame 60 of our sun layer, we can insert a keyframe.



Our keyframe appears as a circle. Frames between keyframes appear as part of a shaded line. If we play our animation, we'll see our suns now appear for 60 frames, but our background only appears in the first frame.

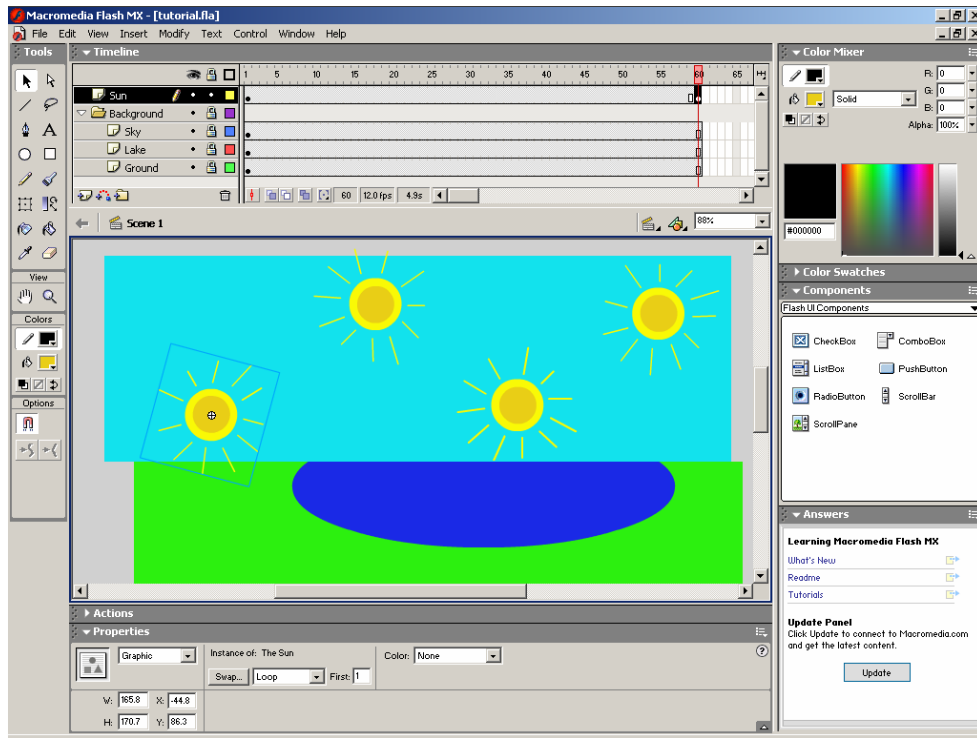


To include our background in those other 59 frames, highlight the 3 frame 60s and right click to select Insert Frame.

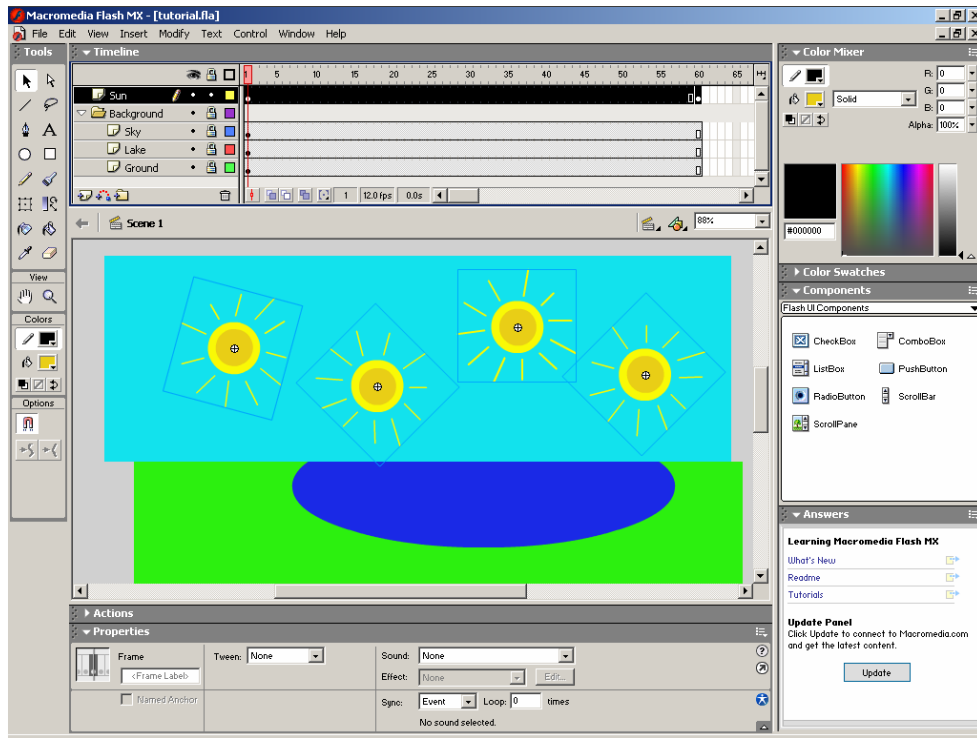


Now everybody appears for all the frames.

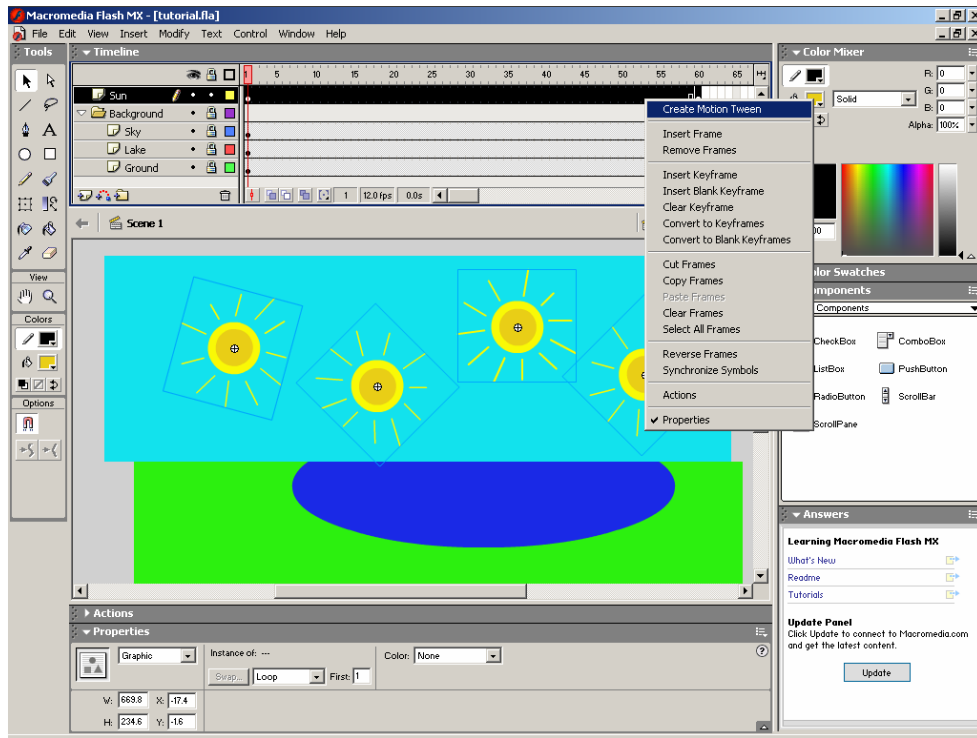




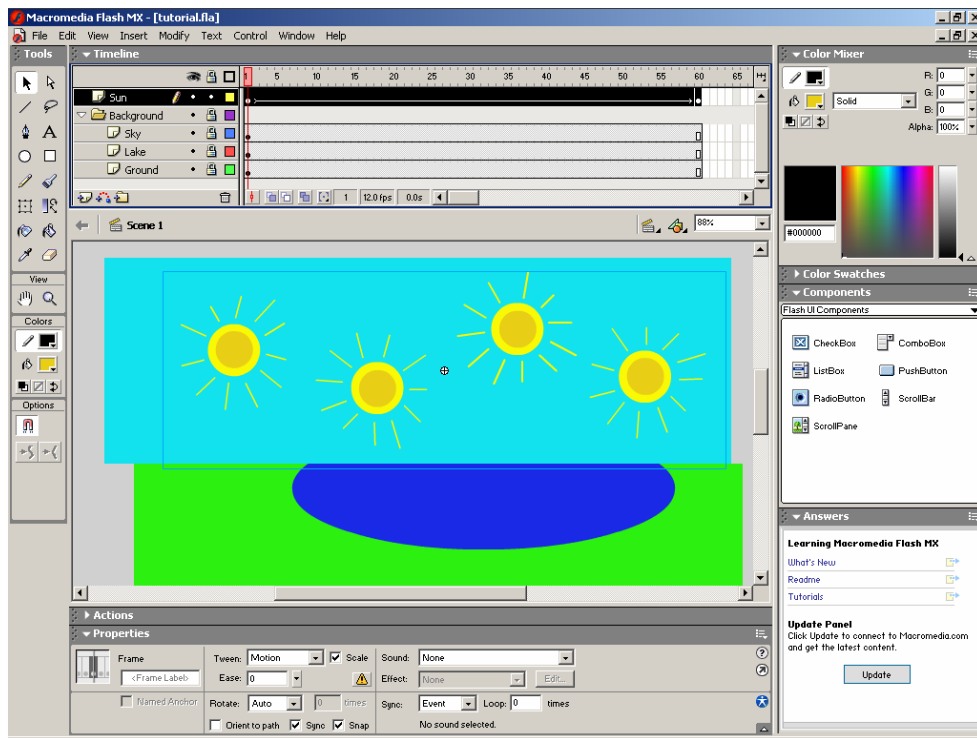
By selecting the keyframe containing our suns, we can rotate in that frame. Changes made to the stage apply to the area between keyframes that you are editing.



Now if we click on Frame 60, hold down shift, and click on Frame 1, we select that range of frames.

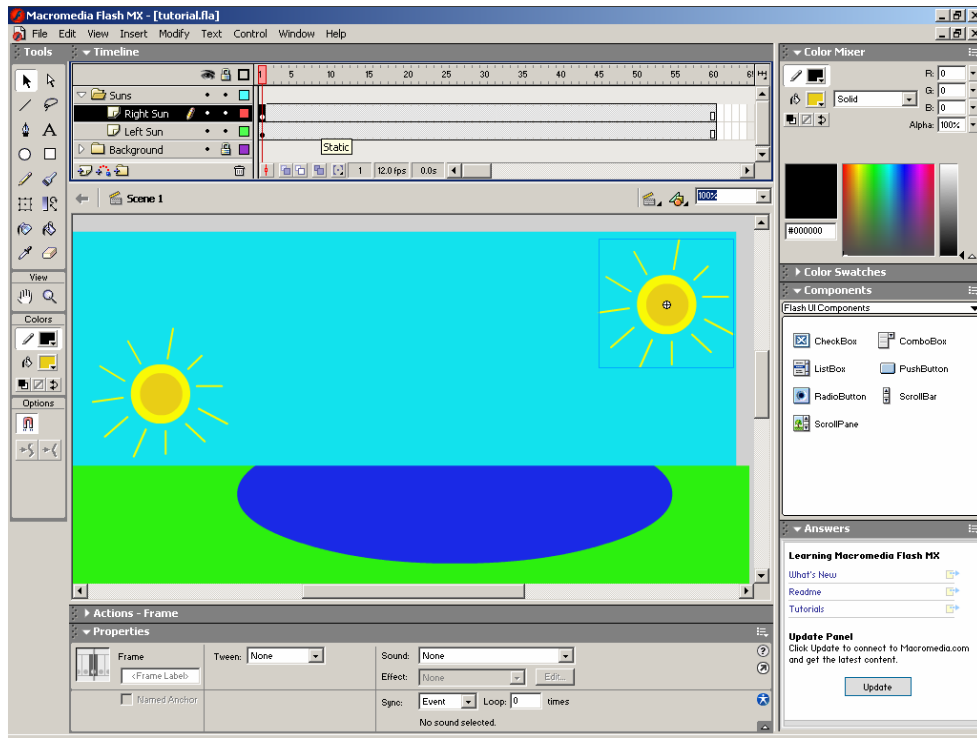


Right clicking, we can select Create Motion Tween. The idea is that Flash will fill in the gaps between our keyframes to animate the changes in the suns the we've specified.

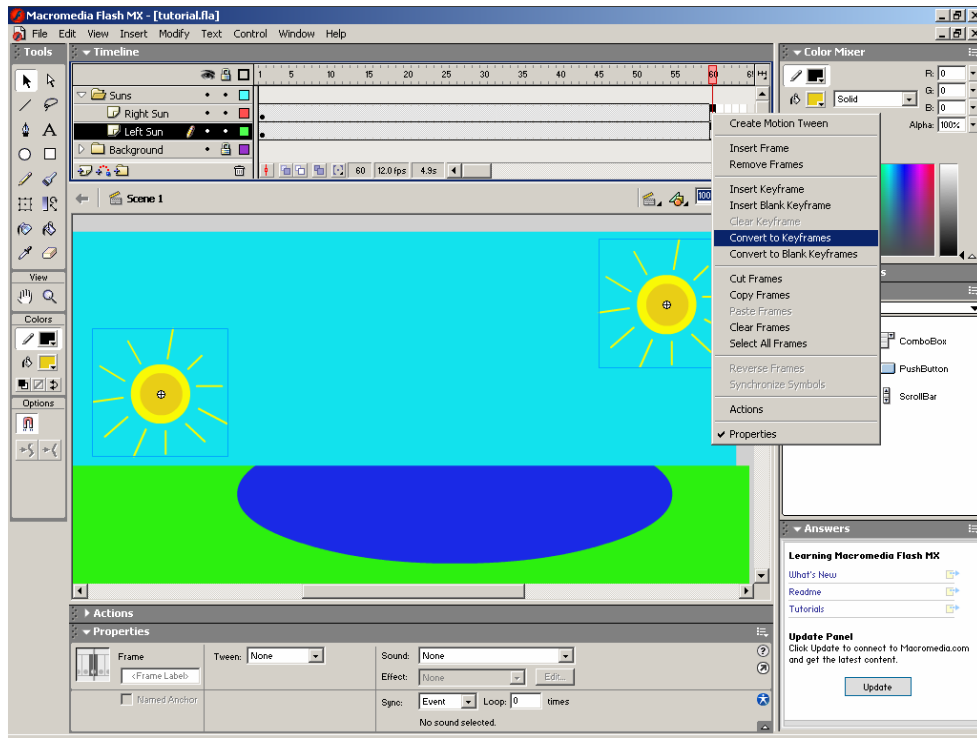


But, you'll find that Flash doesn't do what you might expect. This is the big lesson when it comes to motion tweens in Flash. First, you can only motion tween symbols (our sun is a symbol, so this isn't the problem). Second, all of the symbols on a layer are motion tweened together. The model is that each layer is one thing, so you can't draw parts of a layer above or below parts of that same layer, and elements on a layer are all motion tweened together.

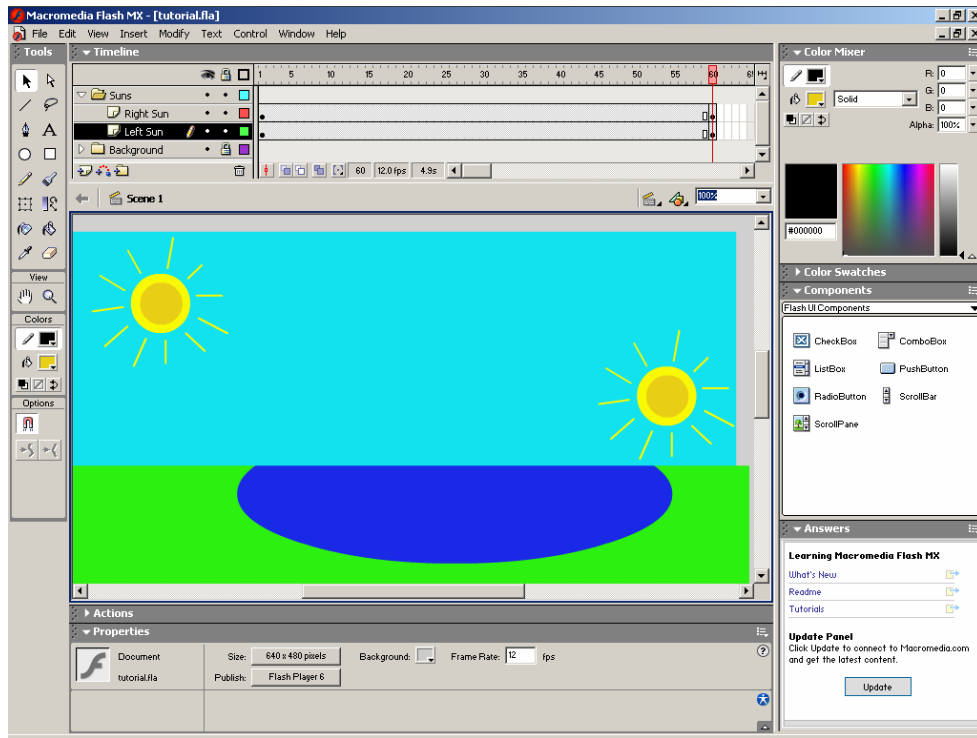
When you create a tween, and it goes horribly wrong, think about this. You probably have multiple objects on the same layer.



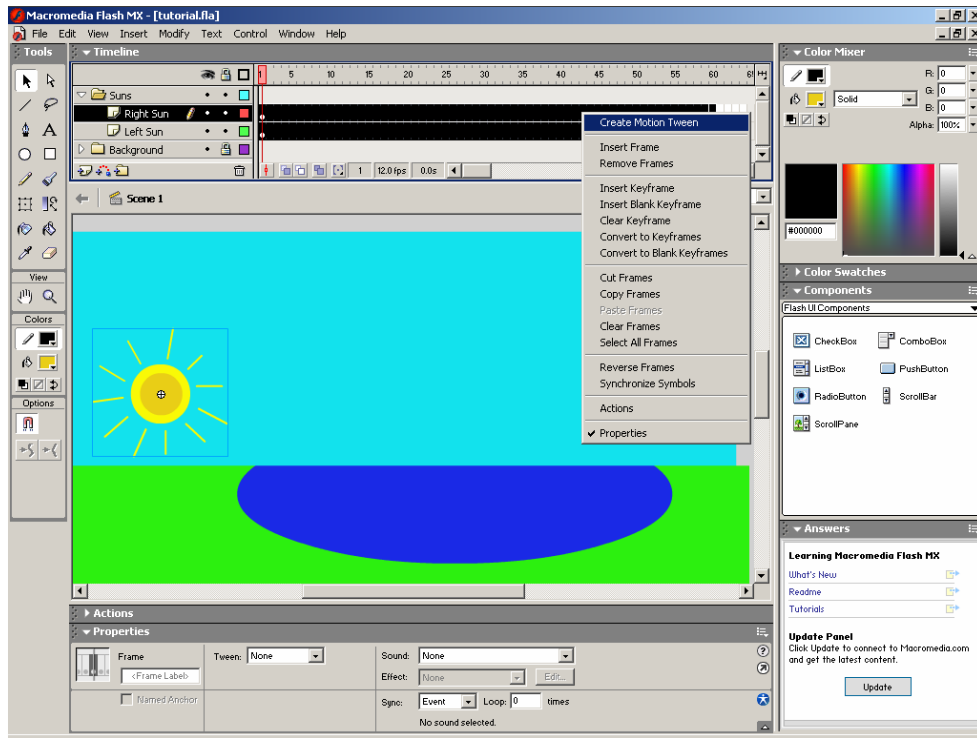
So at this point we'll delete that suns layer and create a new folder containing two layers, each of which contains a sun.



We will insert a keyframe at frame 60 in both of these layers.

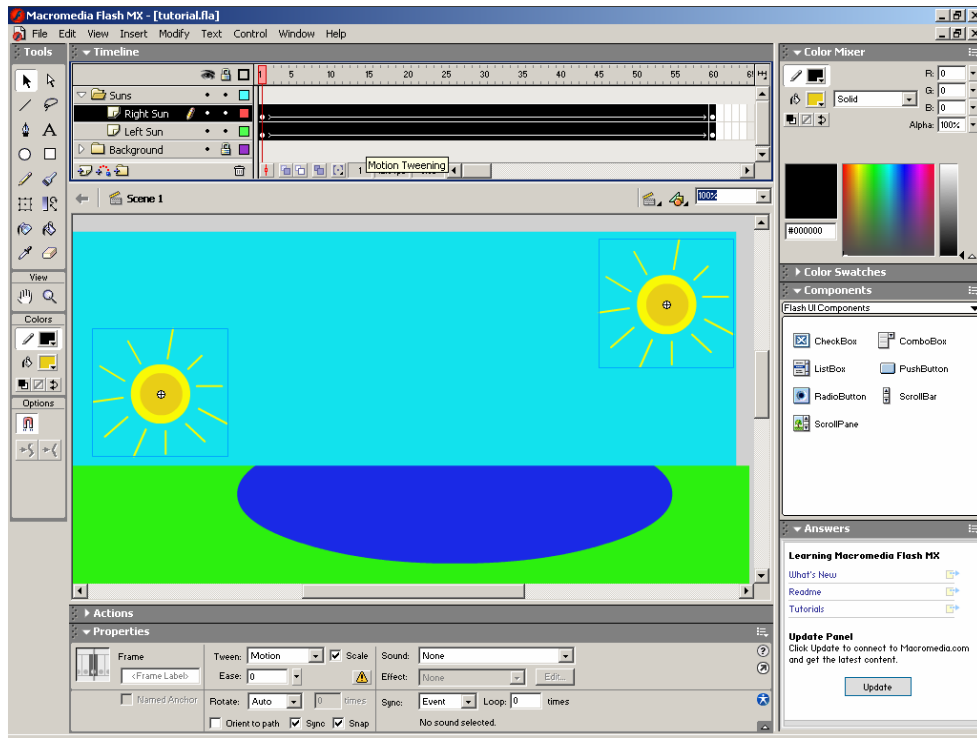


And move the sun in each of those keyframes.

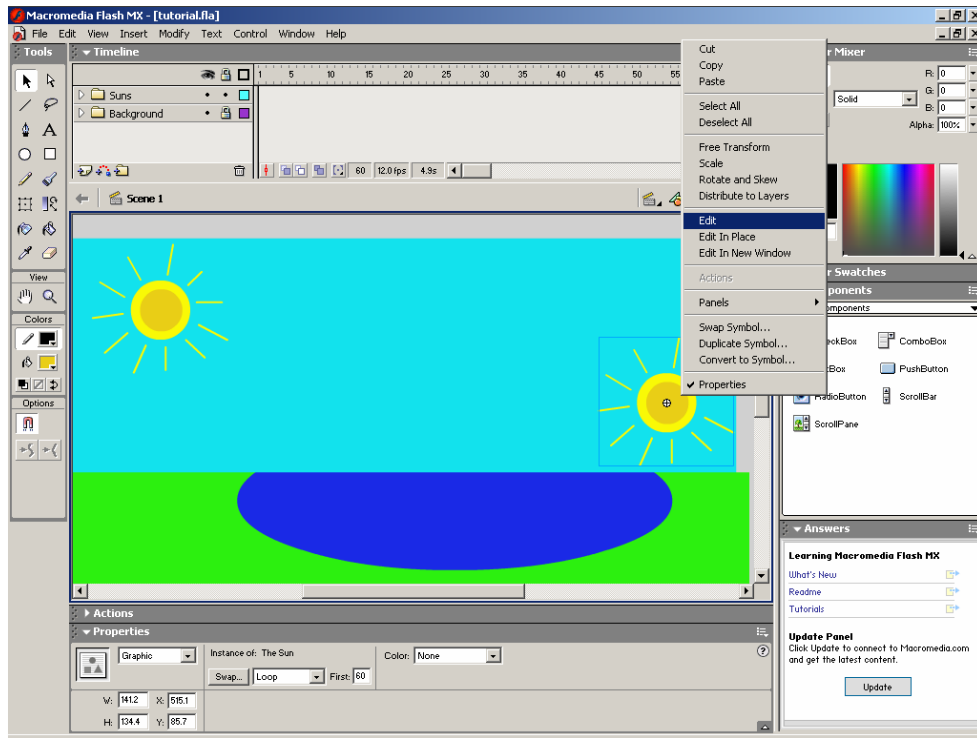


We can then select frames 1 to 60 in both layers (using shift click), and create a motion tween.

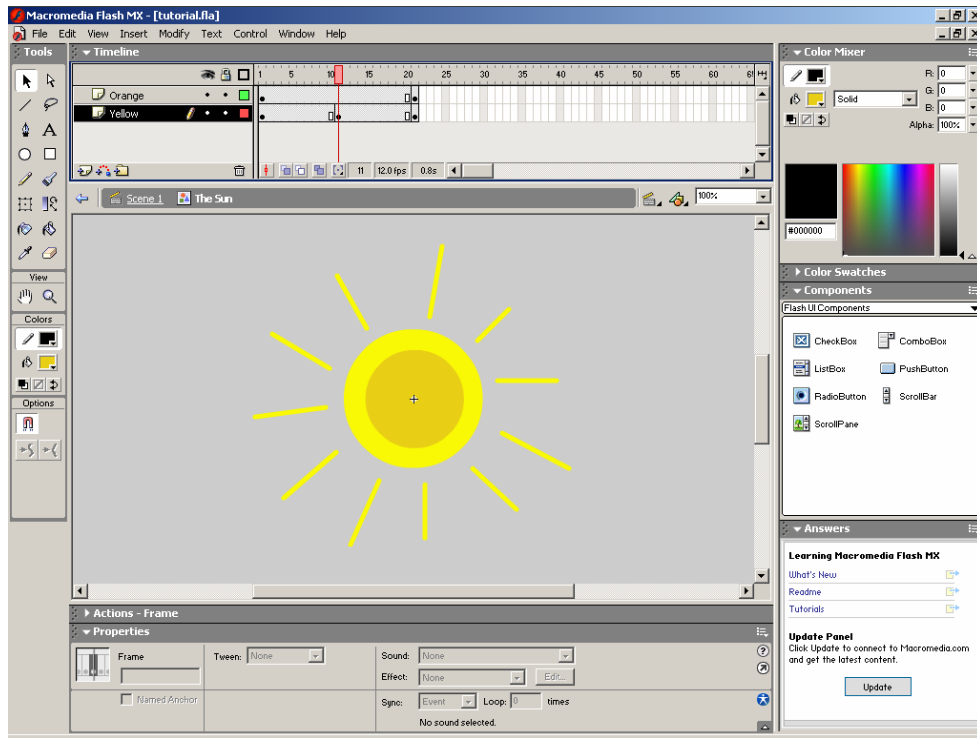




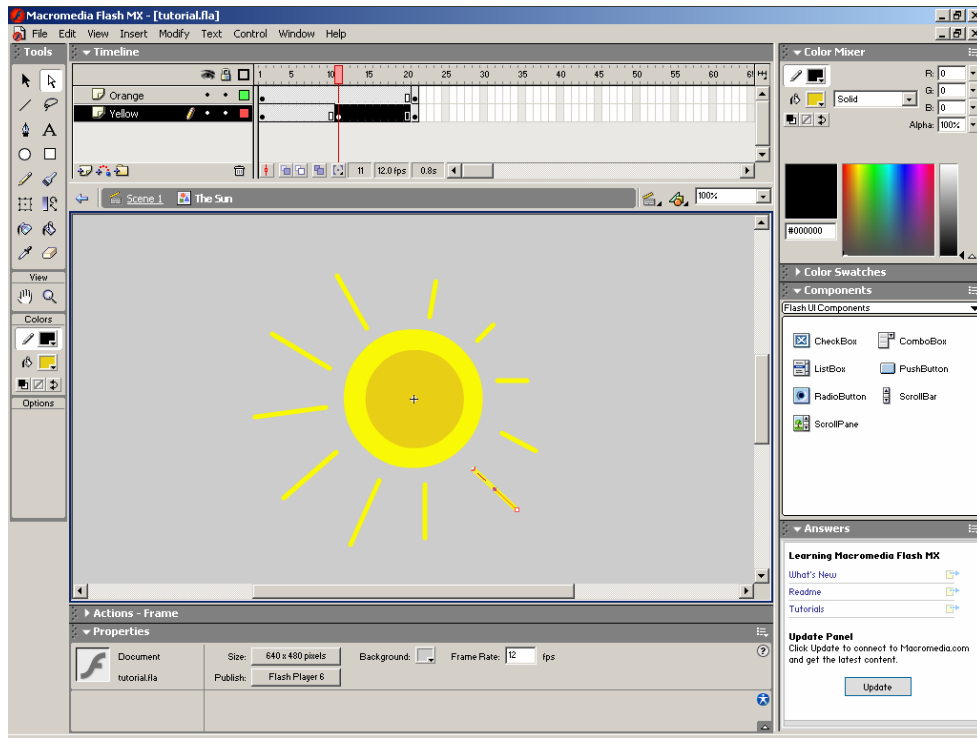
We now get the animation we'd expect. One sun sets while the other rises.



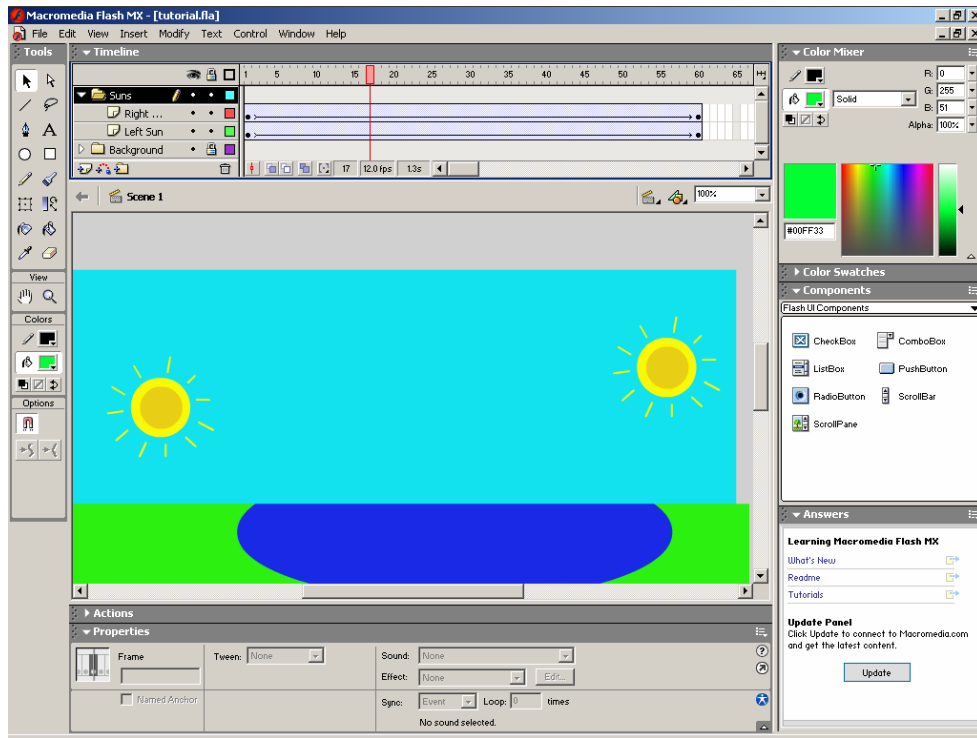
We'll now edit our sun symbol, to show how the animation hierarchy works.



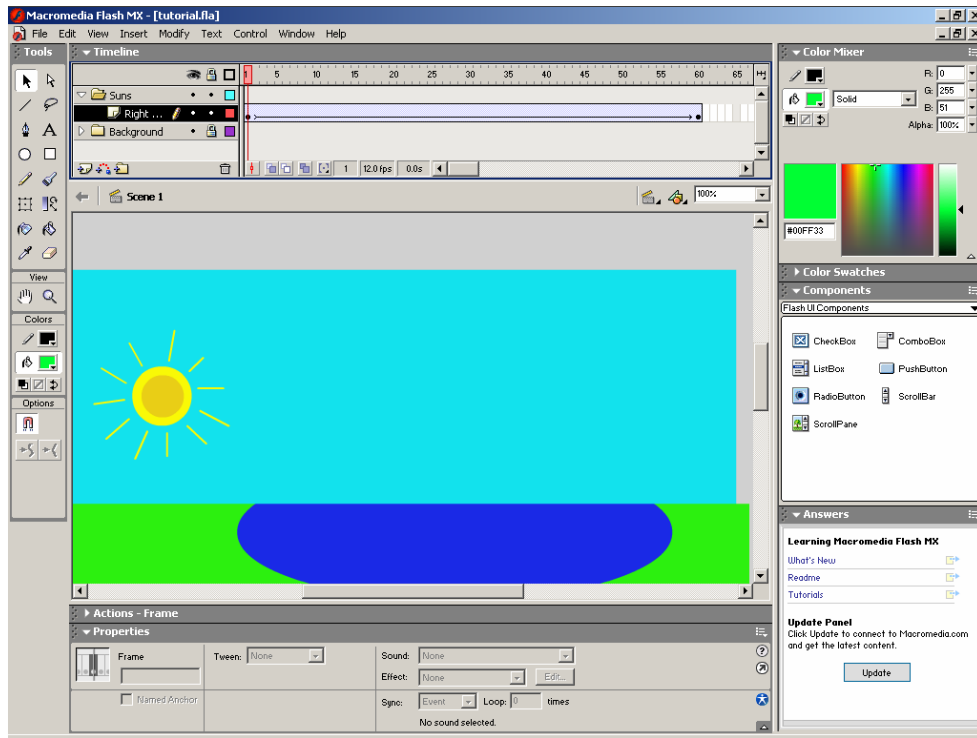
We'll make our sun into a 20 frame animation. The yellow layer will have a keyframe in the middle.



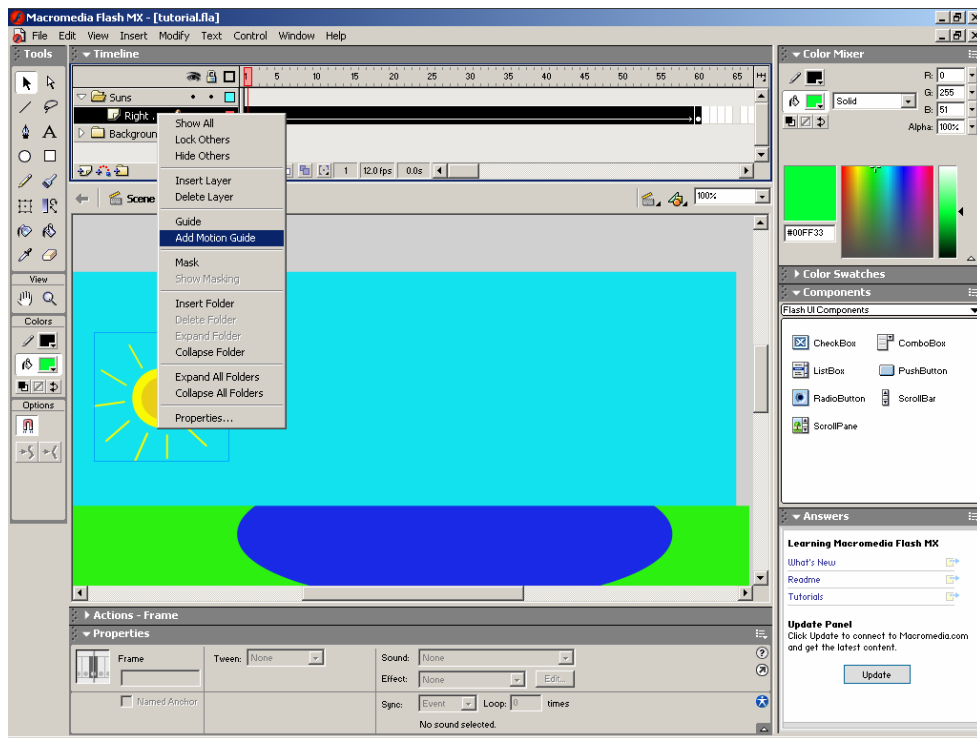
Editing that middle keyframe, we make all our lines half as long.



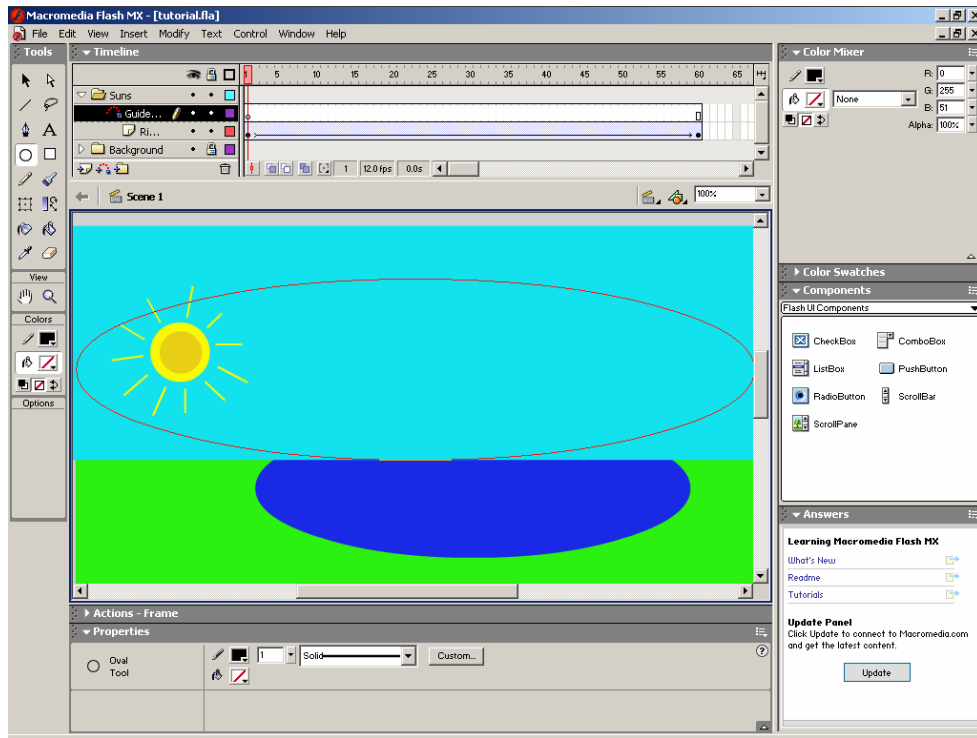
Now our suns change every 10 frames, alternating between long and short sun lines. Note that this means our inner animation loops. All animations loop by default.



Have suns move like that is pretty silly. So delete one of them and lets get the other to move in a sensible way.

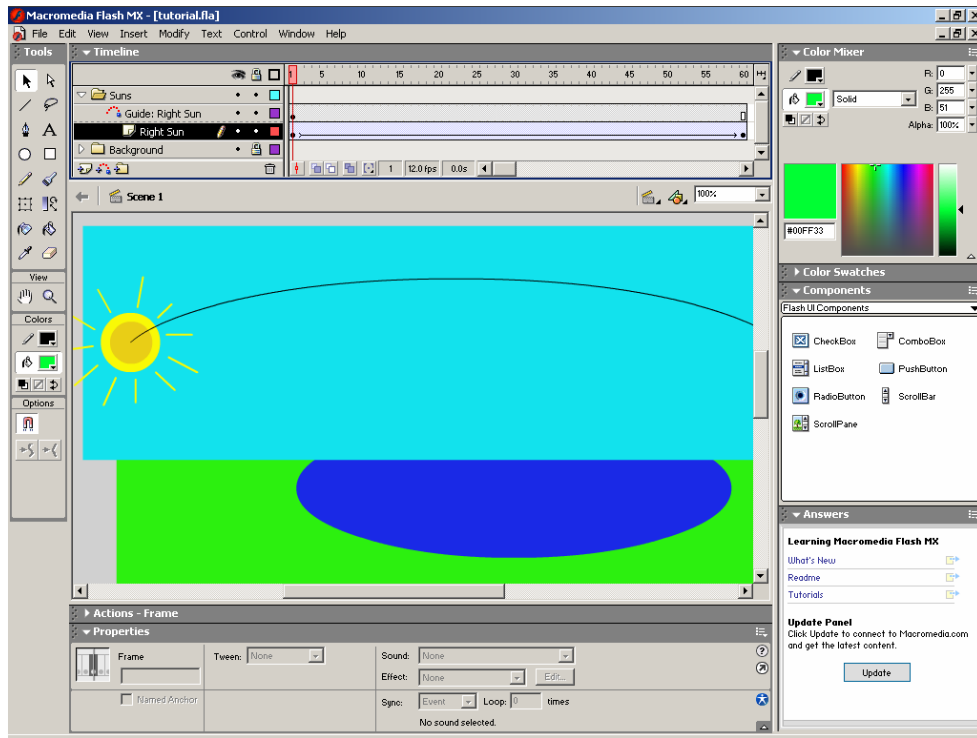


Right click on our sun layer and select Add Motion Guide. Motion guides appear below layers they are associated with. What you draw in them controls the placement of items in the layer above them.

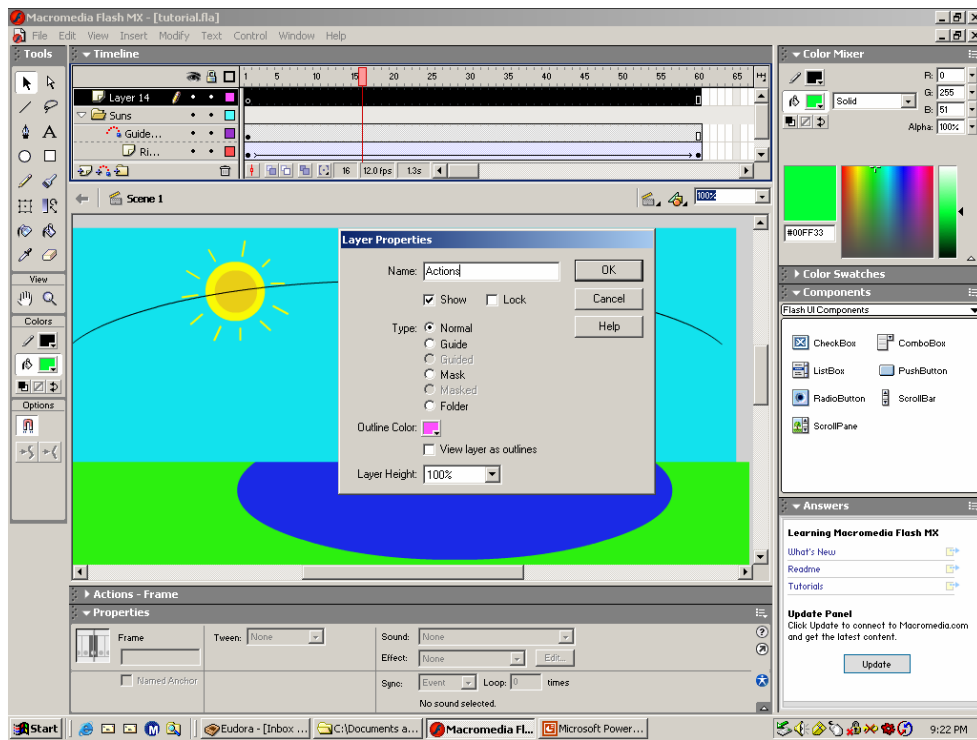


So if we draw a large ellipse in the layer.



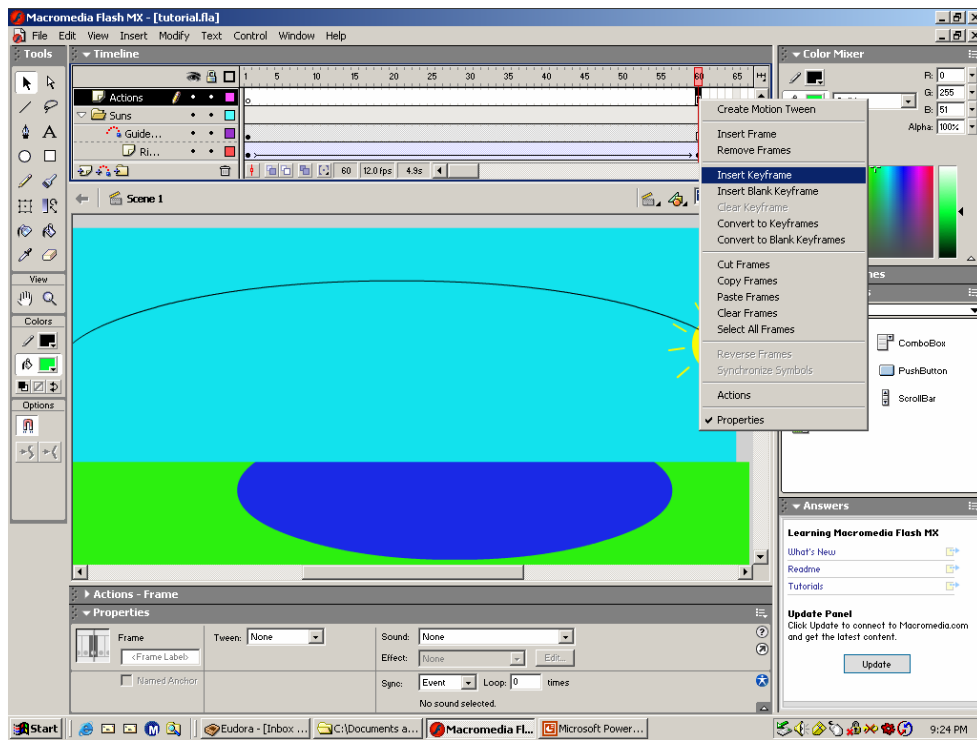


Then cut the bottom off it with the arrow tool. Select our suns in each keyframe and position them at one end of the line. Now our suns animate along the arc.

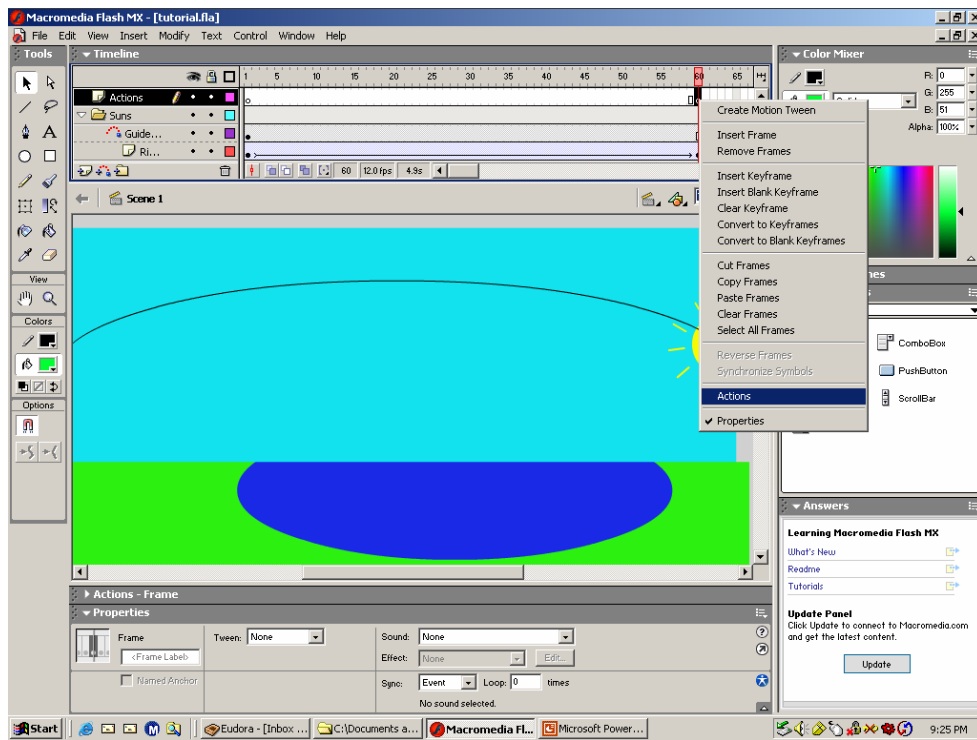


By default, flash movies loop. They will repeat over and over and over and over and over. To show how to not do this, we'll edit our movie and tell it to stop after it has played once. This will involve our first piece of ActionScript, the programming language used by Flash.

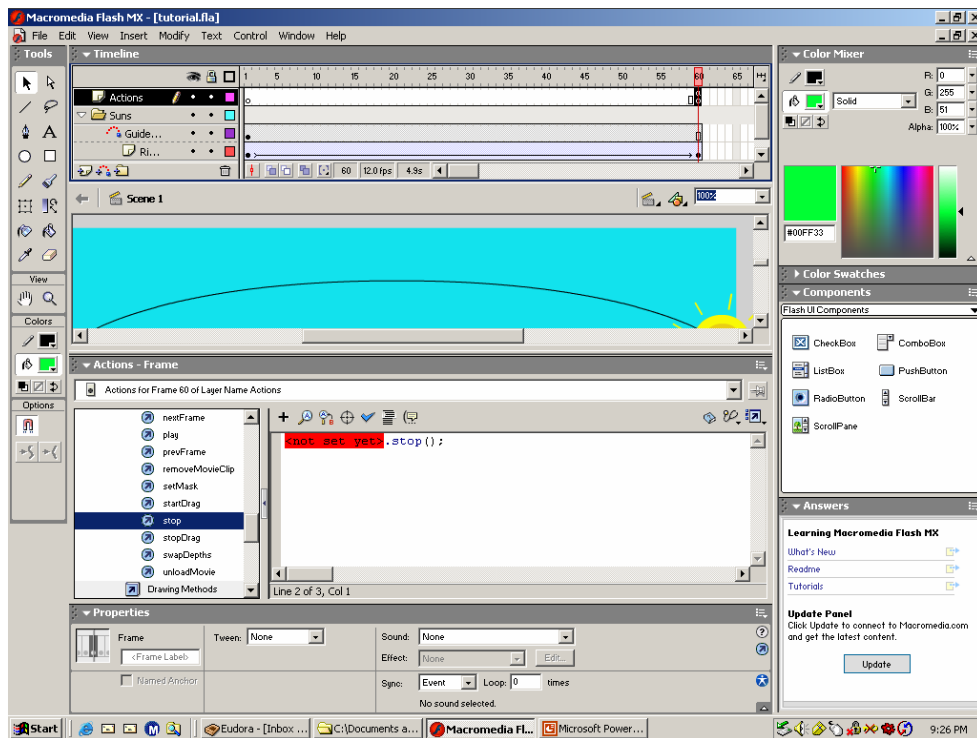
Create a layer named "Actions" at the top of your document. This is a convention, and not required, but is a good thing for helping you place your actions where you can find them.



Insert a keyframe at Frame 60, so we can specify an action for that frame.

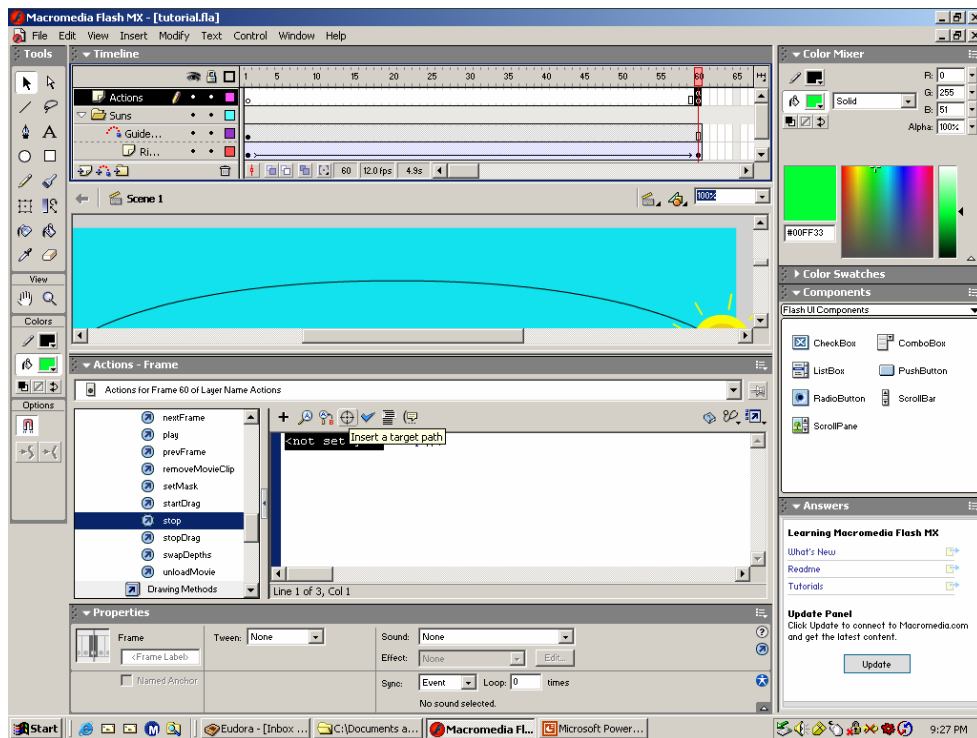


Right click on the keyframe and select actions.

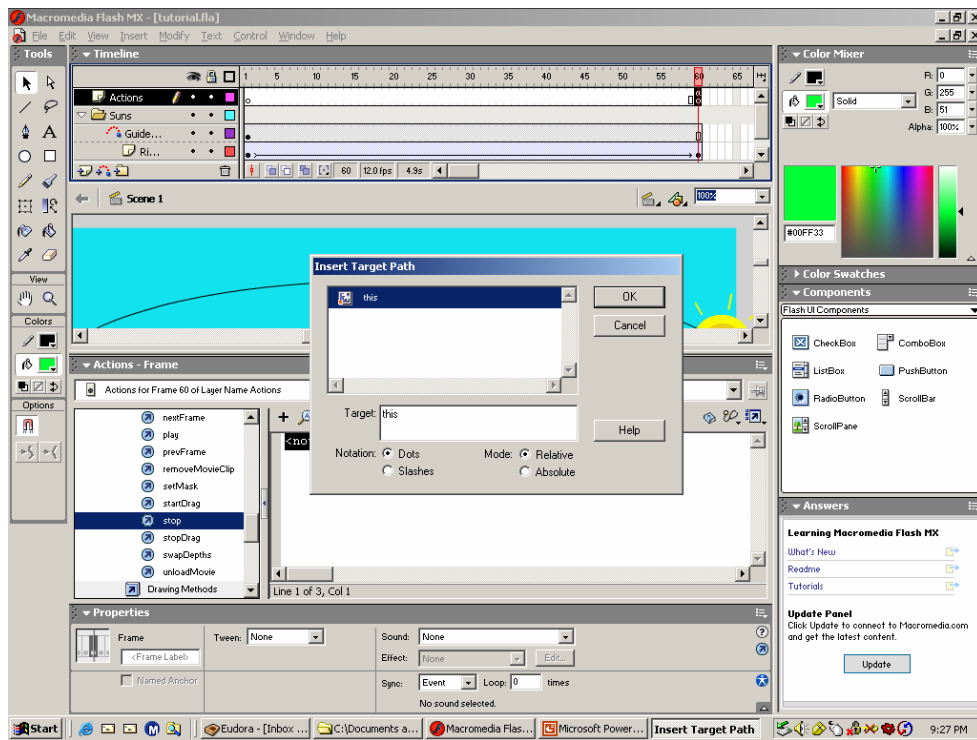


Browse to Objects -> Movie -> MovieClip -> Methods -> stop and double click on it.

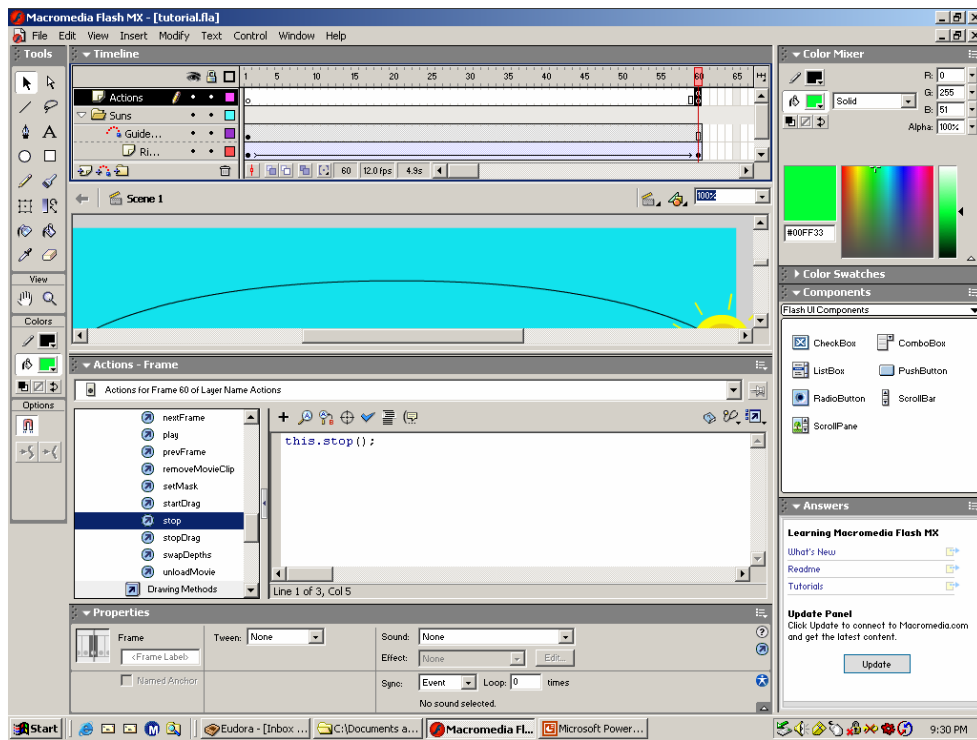
It will paste in code. You could type this on your own, but Flash tries to help you remember what is available.



We have to tell it what to stop. Highlight <not set yet> and click on the crosshair for insert a target path.



Then select this.



Now it'll say `this.stop()`, indicating that the movie should be stopped when it gets to frame 60.