# YOUR PUPPET STORY

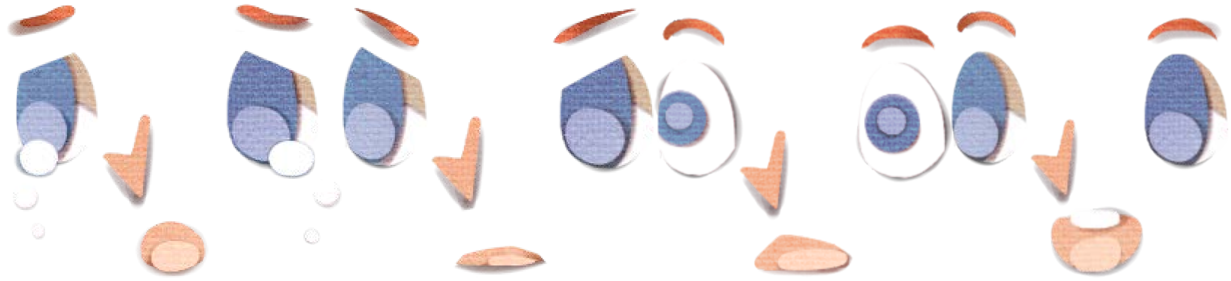
## NOTE

This tutorial requires some understanding of how Flash CC works. No artwork is provided, so the user must make their own. This simply breaks down the steps required to create the project, and allows the user to customize it to their own needs.

## MAKE A CHARACTER

The stage's character is made up of several parts, each nested within the other in order to properly animate.

The first movieclip is the face. It should have as many frames as expressions available. I had four.



Put all the faces in the movie clip, one on each frame. Make sure that they are all overlaying each other properly (your expression shouldn't be jumping around the face when you change it!).

Each layer should have a single line of actionscript on it which is **stop();** .

With that movieclip done, next is the body. Make yet another new movie clip for it.

The body has no face or arms. Drag the face onto the body, and put it in the proper spot. Make sure to give the face an instance name! Next, convert the arms to movie clips, and drag them onto the stage as well. If you would like to manipulate them via actionscript, give them an instance name as well (this is the case with everything, so I will not mention it again).

The arms can now be animated via a motion tween (use rotate and make sure they rotate from the same spot! Arms don't dislocate when they move!

Now your character looks whole. Making YET another movie clip, drag the movie clip that contains the arms, body, and face together into it. NOW, animate a bouncing motion (or even a simple two keyframe animation).

No, we're still not done. Make ANOTHER movie clip and drag this bouncing, arm waggling character into it. Now, you can animate a longer bounce where they dive onto the stage and dive under it.

This is the clip you will use for your stage. I hope you named all those instances!

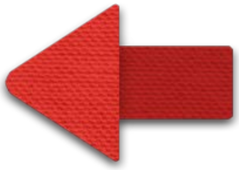
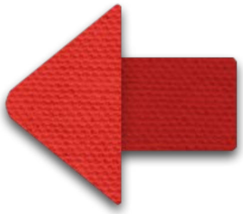
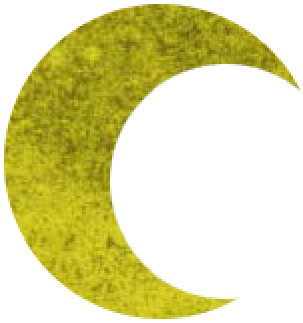
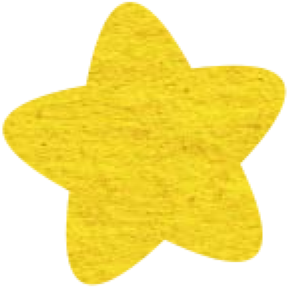
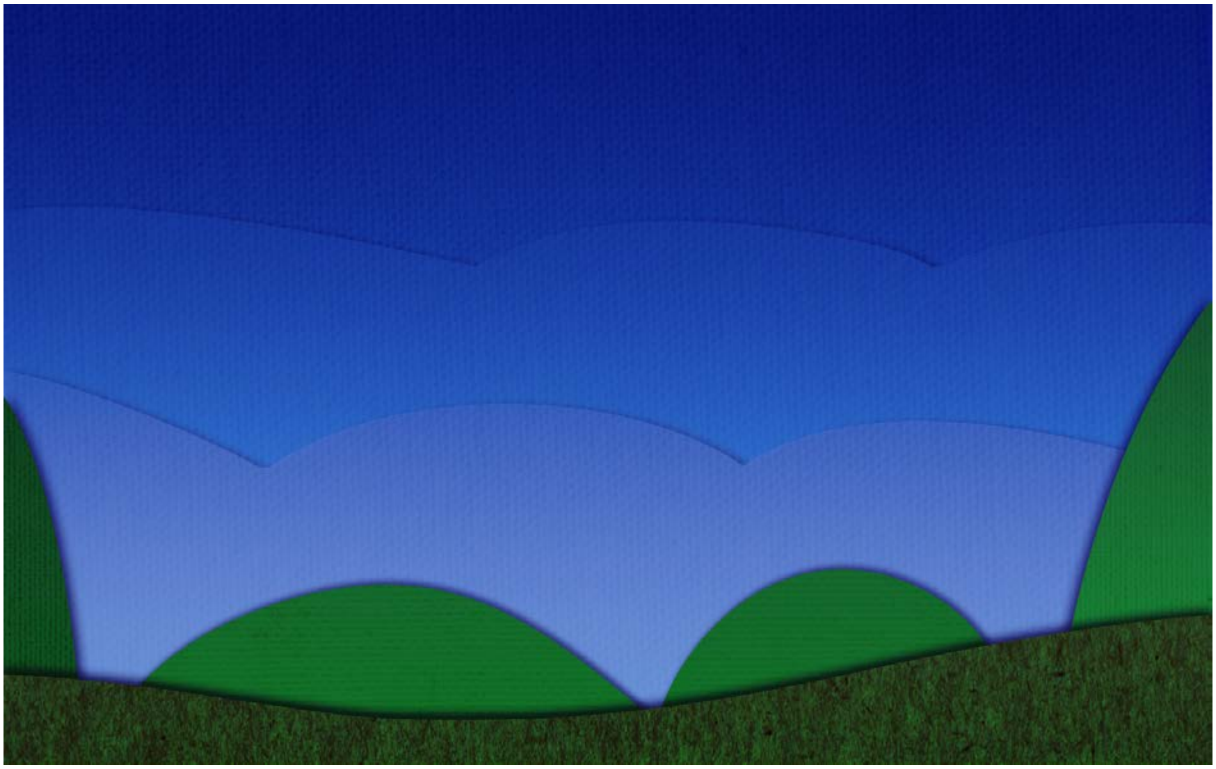
## MAKE A BACKGROUND / BUTTON / STAGE / ETC

All other parts of the visuals were simply drawn in a graphics program (Paint Tool SAI) and loaded into flash. Make sure to right click on your bitmaps and select properties after importing (you may do all your bitmaps at once). Choose lossless compression if you want your images to look nice, otherwise flash will compress them slightly!

Animations can be done (such as the background) by adding the bottom layer of the background first and dragging objects onto it. These objects are separately animated via motion tweens, just like the main characters are. I put all the backgrounds into one movieclip, much like the face.

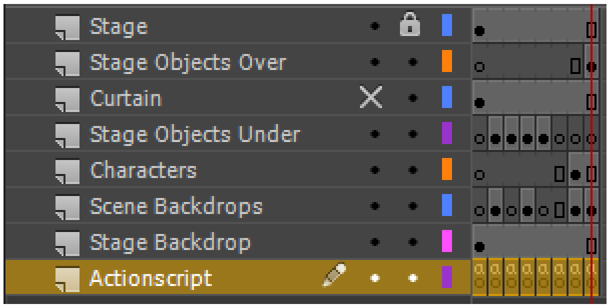
The button animations are simply two images that are shown in a staggered frame by frame animation.

I've made all images twice as big and simply shrunk them in flash (via properties). That allows stretching to look more nice.

## SETTING UP THE STAGE

It's important to use layers to make sure that everything on the stage displays properly. On the right is my layer setup.



Stage
Stage Objects Over
Curtain
Stage Objects Under
Characters
Scene Backdrops
Stage Backdrop
Actionscript

### STAGE

Not to be confused with flash's stage, stage is just an image that shows the stage object. The center is transparent which allows other objects to be displayed under it. I have locked the layer, as it covers everything else (and makes editing the other layers difficult).

### STAGE OBJECTS OVER

There is a text box that has to go over the curtain at the end (the THE END) and button so I made this layer for the very last scene.

### CURTAIN

This layer contains the curtain which covers everything and changes scenes.

### STAGE OBJECTS UNDER

These are objects that aren't the characters (textboxes and button images).

### CHARACTERS

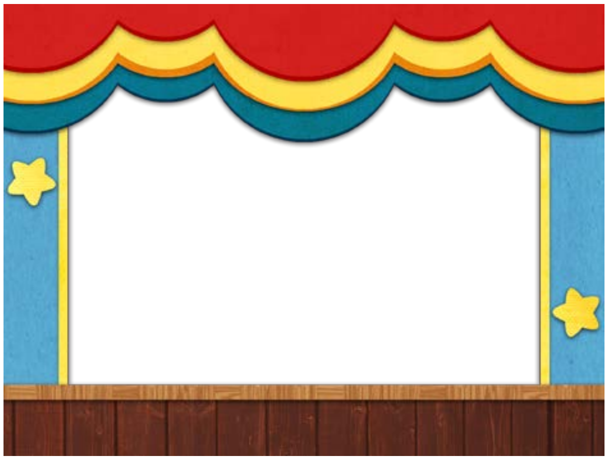
This is where you should place the characters (hide them offstage for now).

### SCENE BACKDROPS

This layer is where the backdrops go.

### STAGE BACKDROP

This is where the background BEHIND the backgrounds go (inception!). It is a wooden look that imitates the back of the "stage" (of the puppet theatre) itself.



### ACTIONSCRIPT

It is good to put all your actionscript on one layer for easy reference. Check the code folder for the code on each layer. It won't work if you just copy/paste it into your project; it only acts as a guideline for how to write your code.

## WRITING THE CODE

Have a look at the individual frame files for the code and what it is supposed to do.

## MAKING THE CONTROLLER

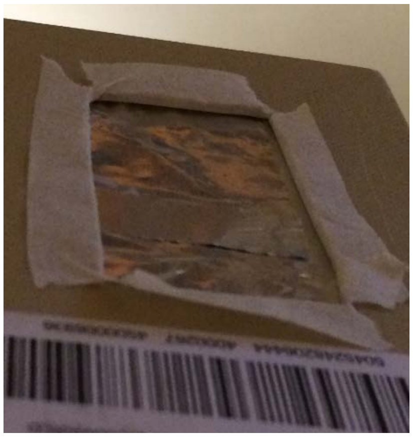
The controller is quite simple to make.

**YOU WILL NEED:**

1. Brass Tacks
   a. Any tacks work, but the top must not be covered by plastic or anything like that.
   b. The material must conduct electricity.
2. A MaKeyMakey
   a. Preferably version 1.2+ for easy key remapping.
3. Jumper Wires (13)
4. Alligator Clips (17)
5. Xacto Knife / Scissors
   a. Or something to cut boxes…
6. Construction Paper
7. Electric Tape
8. Duct Tape
9. Double Sided Tape
10. Aluminum Tape
11. Masking Tape (optional)
12. A Box
    a. A small gift box works best because you don't want the controller to be massive.
    b. It would be great if it had a detachable lid.

## STEP BY STEP GUIDELINES

1. Cut two holes in the box, one at the bottom on the side with your less dominant hand (for the grounding pad) and one at the back (for the MaKeyMaKey's USB) on the side opposite of where your hand hole is. Neither should be too large; the hole on the bottom should be large enough so it's not too awkward for your fingers to rest on them. You may want to pad the edges with masking tape if there are too many shredded paper pieces (ow).

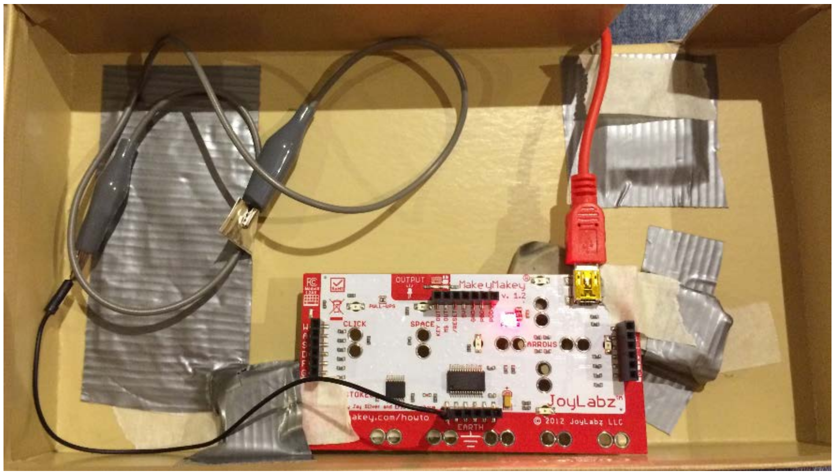


2. You can put your MaKeyMaKey in the box now. I affixed it with some erasers/masking tape, but you can put whatever you'd like. You do have to cushion it so there's a bit of space between the MaKeyMaKey and the bottom of the box, because the alligator clips that attach to the arrow keys & click/space & ground will be more stable that way. The usb goes out the back hole.

3. First we will make the grounding pad. The method is essentially the same as http://www.instructables.com/id/Hands-Free-MaKey-MaKey-Ground-Bracelet/ so please have a look. Follow the instructions and complete up to step 6, making sure that your "bracelet" is wide enough to cover the entire hole with the aluminum tape. Once ready, lay the bracelet so that the aluminum tape side faces out towards the hole opening (inside the box!) and that the little tab sticks out inside the box. Tape it down with duct tape to the inside of the box.

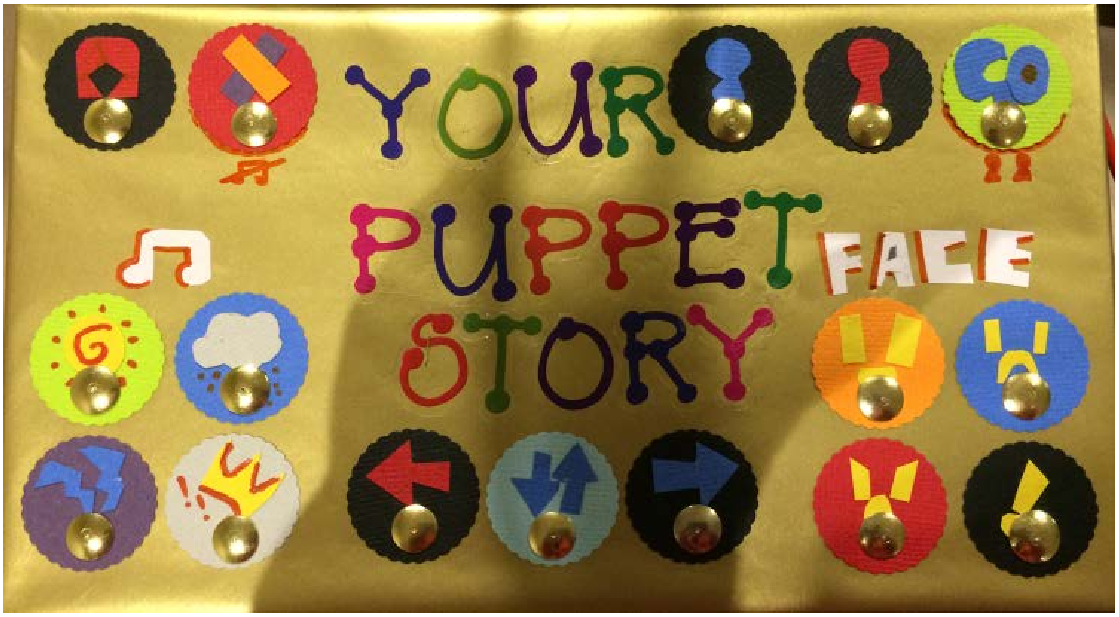
   From experience, I find it is better to put something solid on top of the tape (inside the box) as the user tends to push the tape in on use (ie. Another piece of cardboard) but you can also just leave it. Clip an alligator clip to the aluminum tape tab and clip the other end to one of the GROUND holes.

   If you did it right, then the bottom of your box should look like the above picture, and the inside of your box should look something like the below picture:



4. How exciting! Now, decorate the top of your box. You can do this however you'd like. I used a scalloped edge punch (1") to punch the "button circles" and cut out the rest of the decorations by hand. You need as many circles as there are buttons. Once the design is done, put a tack on top of every "button" you've made, depending on how many functions your controller needs to handle.

   Below is mine.



5. Being careful not to stab yourself with the tacks, now we can use the alligator clips/jumper wires to connect the MaKeyMaKey and tacks. Secure the alligator clips to the box/tack with some electric tape. It's a bit of a mess, but it works fine.

   Keep track of which MaKeyMaKey "key" you attached to which tack! You will need to know when you remap the MaKeyMaKey to the right keys (which match the ones you chose in your application). See the BUILDandREMAP.pdf if you want to see how I organized mine. Have a look at the next page for the inside of my controller, if you want to see how to do it.

6. Close the lid and marvel at how neat it suddenly looks. Now, go to http://www.makeymakey.com/remap/ and remap your keys to the ones that are used by the flash program. (If you have a version less than 1.2, you will have to figure out how to remap the keys).

## INTERNAL CABLES