



## Sculpting in Fusion 360



by Desktop Makes

Here's an excellent model to practice some sculpting with Fusion 360. It's an adorable ghost that can be 3D printed. It's also the perfect size to put an LED tealight inside and make it glow.

The sculpting environment can be a bit intimidating but once you get the hang of it it's actually quite fun to

use. Learning to combine the sculpting and modeling environment in Fusion 360 will open up an entire world of new designs you'll be able to make. I've included a step by step video to go along with the instructions below. The video is included in the last step.

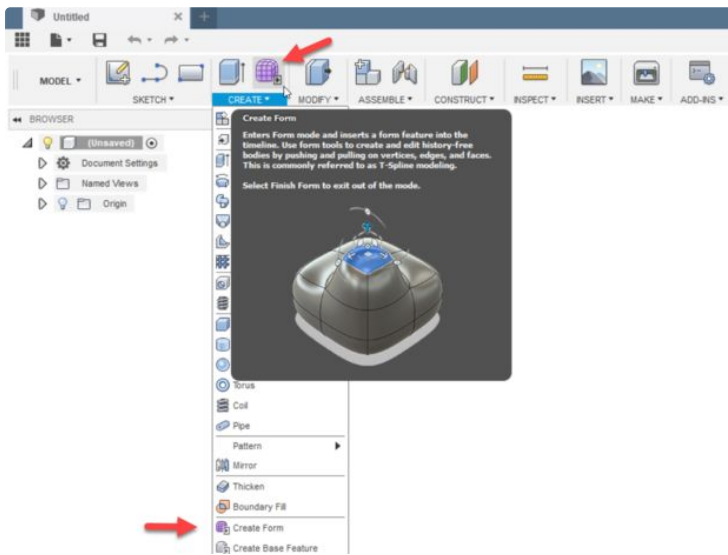


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### Step 1:

We'll start by first jumping into the sculpting environment. When you first open up Fusion 360, it defaults to the modeling environment. Click on the Create menu on the toolbar and select Create Form or simply click on the purple cube icon on the Create

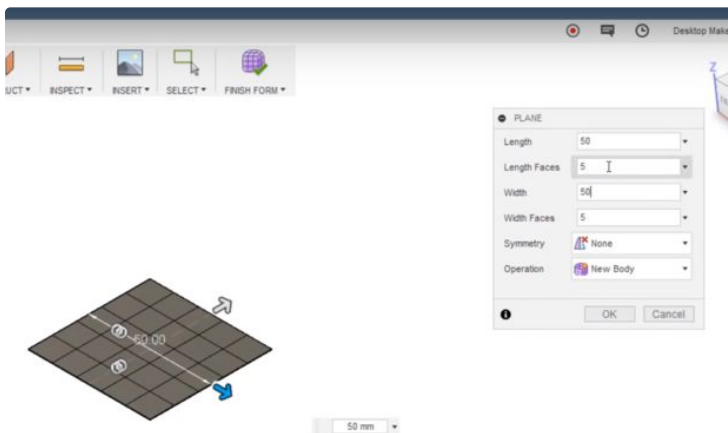
menu. You'll now notice that your menu items have changed and the icons now mostly have a purple color. You should also see the word "Sculpt" instead of "Model" on the upper right corner.



## Step 2: Create a Plane

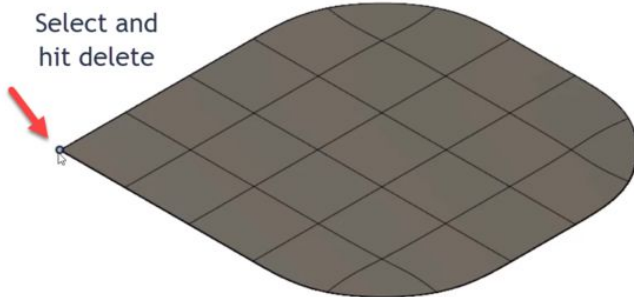
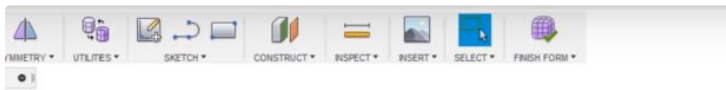
Click on the Create menu and choose Plane from the menu. Select the bottom plane (in my case it's the xy(red, green) plane) and starting from the origin click to begin creating a plane. Click again to complete the plane. The size doesn't matter at this point because

we will enter the dimension in the dialog box that appears. Enter 50 for Length and Width, 5 for Length Faces and Width Faces, Symmetry - None, Operation - New Body. Click OK.



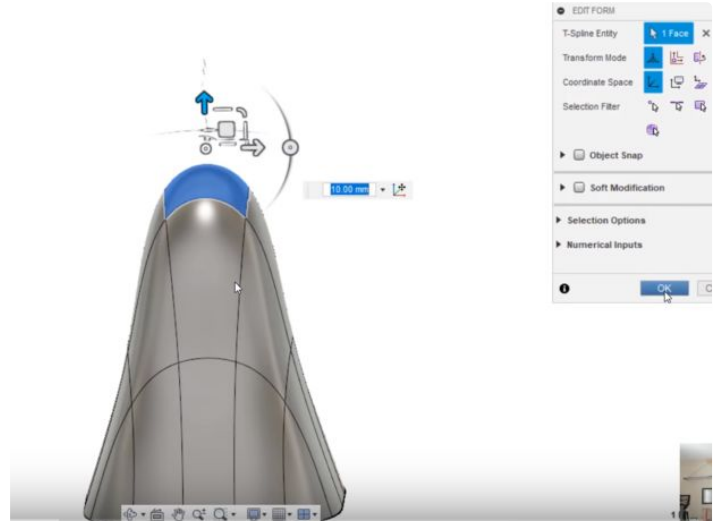
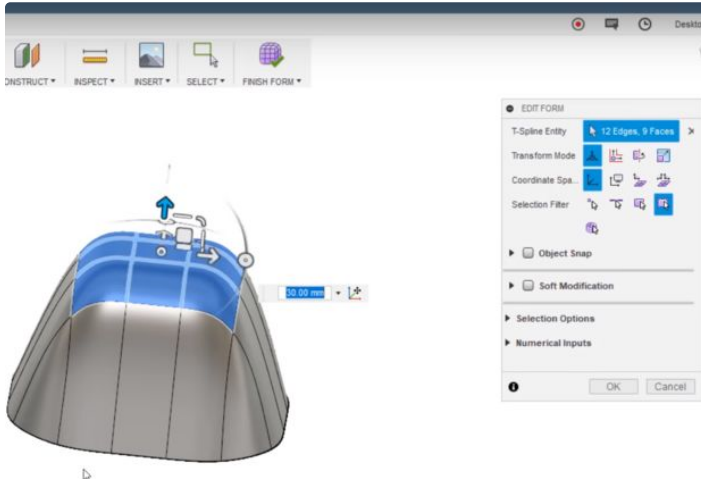
## Step 3: Delete the Vertices to Round the Corners

Next, we'll turn our rectangular plane into a rounded rectangle by deleting all of the corner vertices. Simply click to select the individual vertices and click Delete.



## Step 4: Edit Form to Create the Main Body

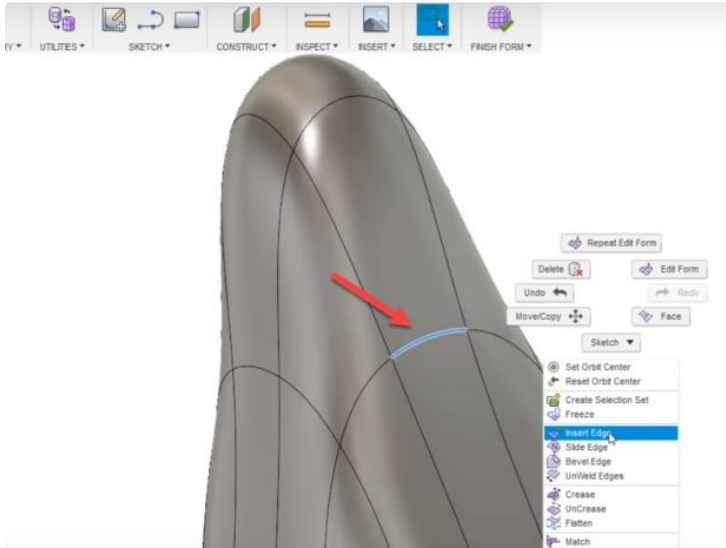
Select the inner 6 squares and then right-click to bring up the context menu and select Edit Form. Drag the up facing arrow up 30mm to pull out the shape. Next, select just the single center square and repeat the process another 30mm. Select the center dot on the manipulator widget and drag it outwards to scale the model a bit bigger. And finally, drag the up arrow another 10mm up. Click OK on the dialog box.



## Step 5: Insert Edge

Next, we need to give our ghost some arms. In order to do this, we'll need to first insert an edge on the side to give us extra geometry to work with. Select the side edge as shown on the picture. Right-click and choose Insert Edge. Use the little slider to position

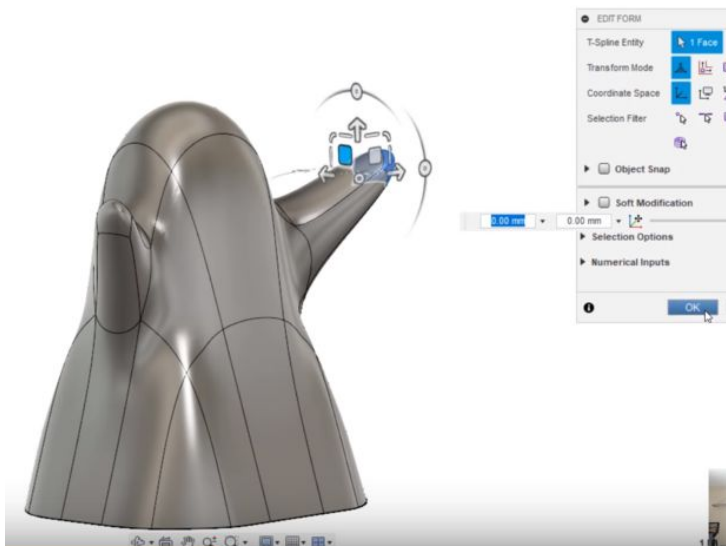
the edge halfway between the selected edge and the edge above it. Click ok and you should now see a new face was created. Next, we'll pull out that face to create the arms.



## Step 6: Create the Arms

Select the newly created face, right-click and choose Edit Form. Navigate to a front view so that you are looking at the front of the ghost. While holding the Alt button, select the little square that's facing you in the manipulator widget and drag it to the upper right. This will pull out the face, creating the arm. Next, navigate to the side view, select the little square on the

manipulator widget that's facing you and drag that forward. This pushes the arm forward. Kinda makes it look like the ghost wants to give you a hug. Did I mention this is a friendly ghost? Repeat steps 5 and 6 to create the other arm.

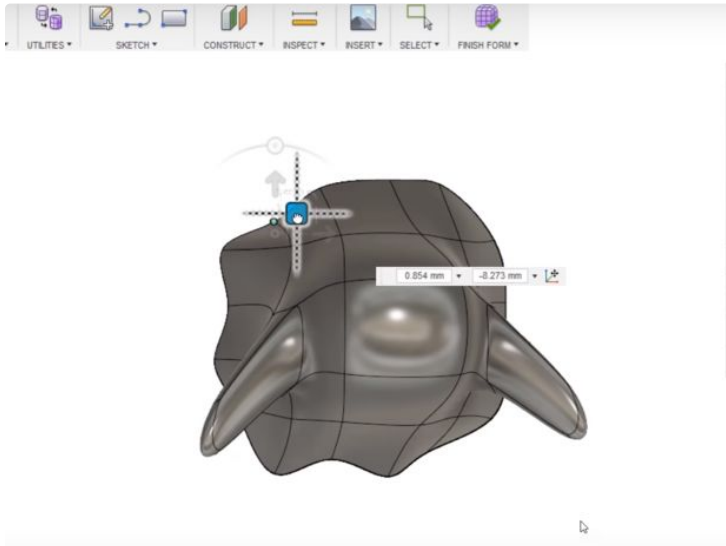


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## Step 7: Make It Wavy

Ghosts tend to have a wavy flowy form to them (at least the ones I've seen and I've seen my fair share of ghosts). So, let's go ahead and give it some waves. Navigate to a top view. Right-click to select edit form and select the vertices at the bottom edge of the skirt (see pic for clarification). Use the square manipulator to adjust the positioning of the vertices. I selected every other one and moved them inwards

and slightly to the side. There's no wrong way to do this. Simply adjust the points until it looks right to you. You can also adjust the shape of the main body by manipulating the edges of the body using the same approach. The only difference is that you will select edges instead of vertices. When you are happy with your results click OK on the dialog box.

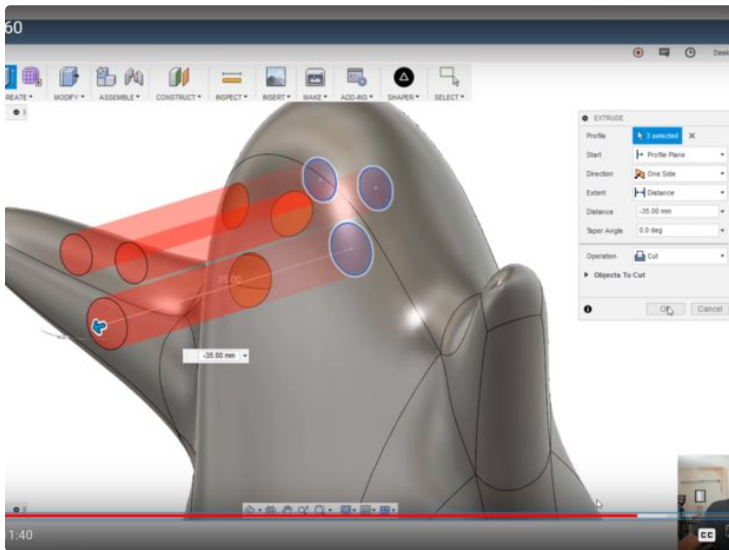


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## Step 8: Create Eyes and Mouth

We are now all set with the sculpting part of the design. Click Finish Form on the toolbar and this will take us back to the Modeling environment. Choose Sketch - Create Sketch and select the center vertical plane (in my case it's the zx (blue, red) plane). Choose Sketch - Center Diameter Circle and use the circle tool to draw the eyes and mouth. Click Stop

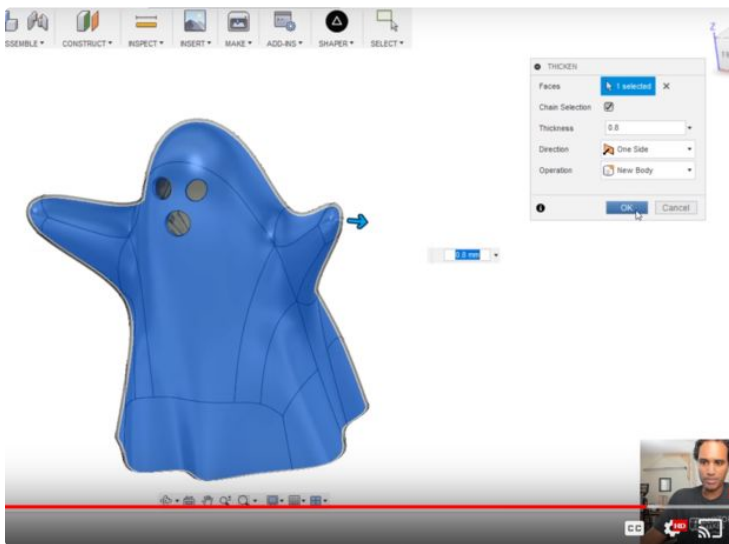
Sketch on the toolbar. Choose Create - Extrude and select the profiles for the eyes and mouth that you just created and extrude them out towards the front of the ghost. Select Cut as the operation on the dialog box and click OK. This will make cutouts for the eyes and mouth.



## Step 9: Thicken

Our sculpted form has no thickness so we'll have to change this if we want to 3D print our ghost. Go to Create - Thicken, select the ghost and give it a thickness of 0.8mm. This will work great if you plan to 3D print your ghost with a printer that has a 0.4mm nozzle (this is the default nozzle on most 3D printers).

Click OK. Finally, select Make - 3D Print and save your design as an STL file. After printing, you can insert a small LED tealight in the ghost and give a neat glow.



## Step 10: Video of Entire Process

### Step 10

Here's a step by step video tutorial of the entire process.

Want to learn how to design for 3D printing with Fusion 360? Check out <https://www.desktopmakes.com/>

<https://youtu.be/8aUoMuorUFI>



That ghost is so cute and your directions look really easy to follow! I might have to finally give Fusion 360 a try :)



Thanks Penolopy, you should definitely give it a try. It will open up a whole new world of creativity!