Course: 3D Design
Title: Wine Glass
Blender: Version 2.6X
Level: Beginning
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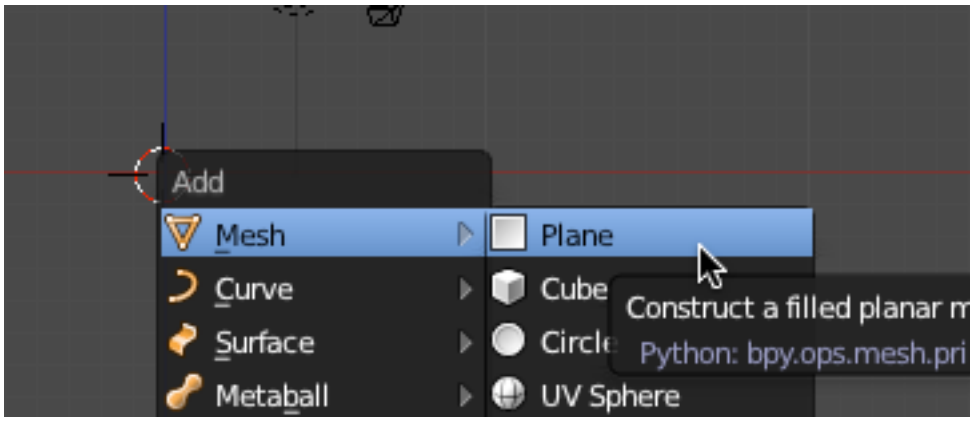
(May 2012)

Wine Glass

In this tutorial, we'll model a Wine Glass using Blender's Mesh Spin tool.

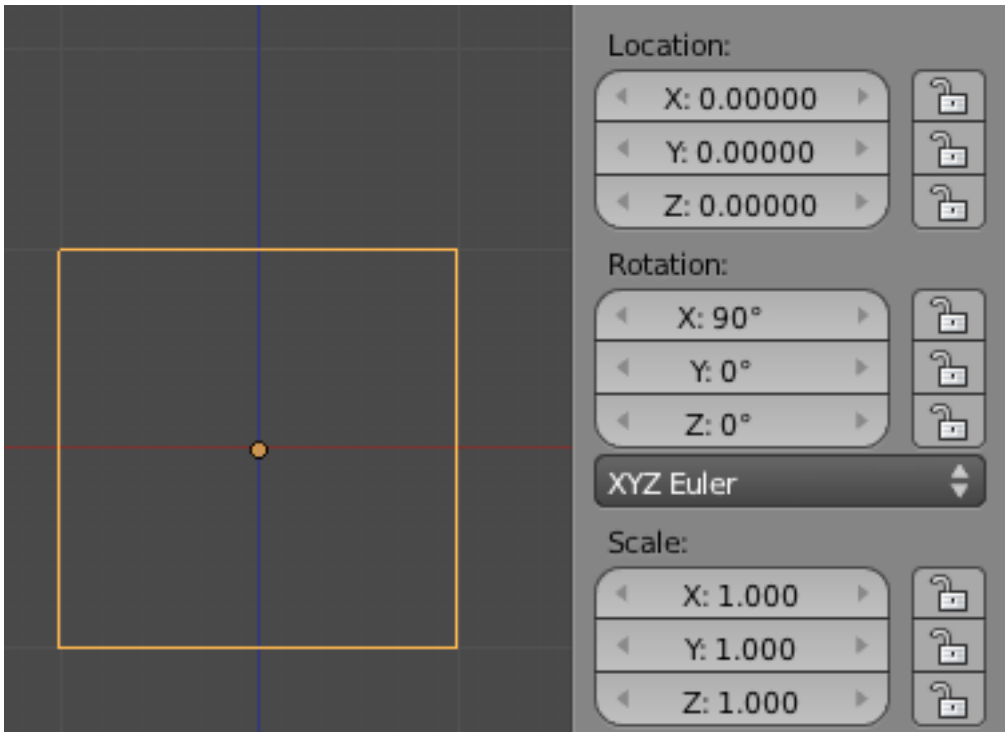
Open Blender. Select the default cube and delete it.

Switch to Front View. (Make sure you are in orthographic rather than perspective projection – NUMPAD-5 if you are in Perspective mode) Place your 3D cursor in the center of the display. Press SHIFT-A and add a Plane object.

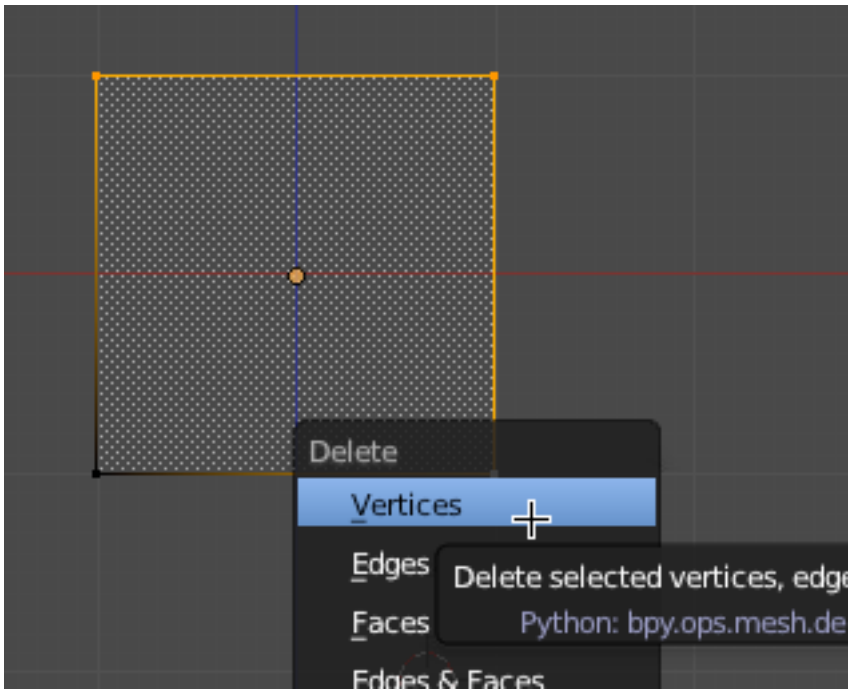


Open up the properties panel on the right (if it is not already open) NKEY

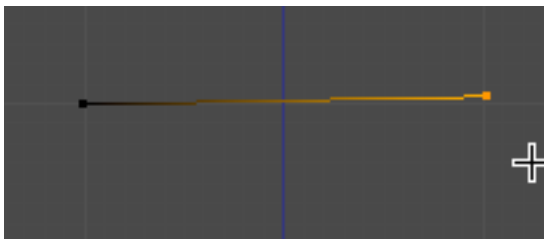
Set the X rotation for the plane object to 90



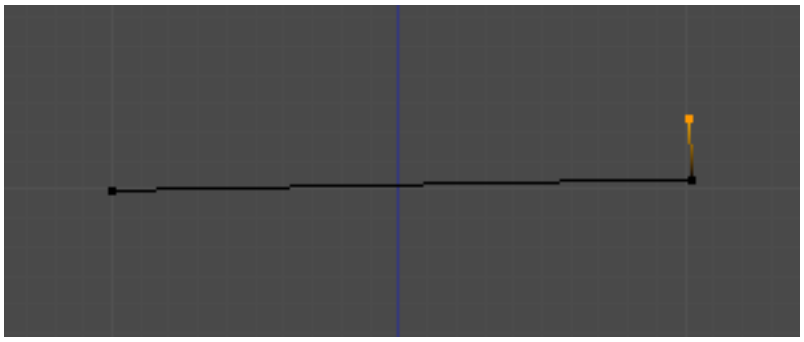
TAB into edit mode. Select 3 of the 4 vertices and press the XKEY and delete the vertices.



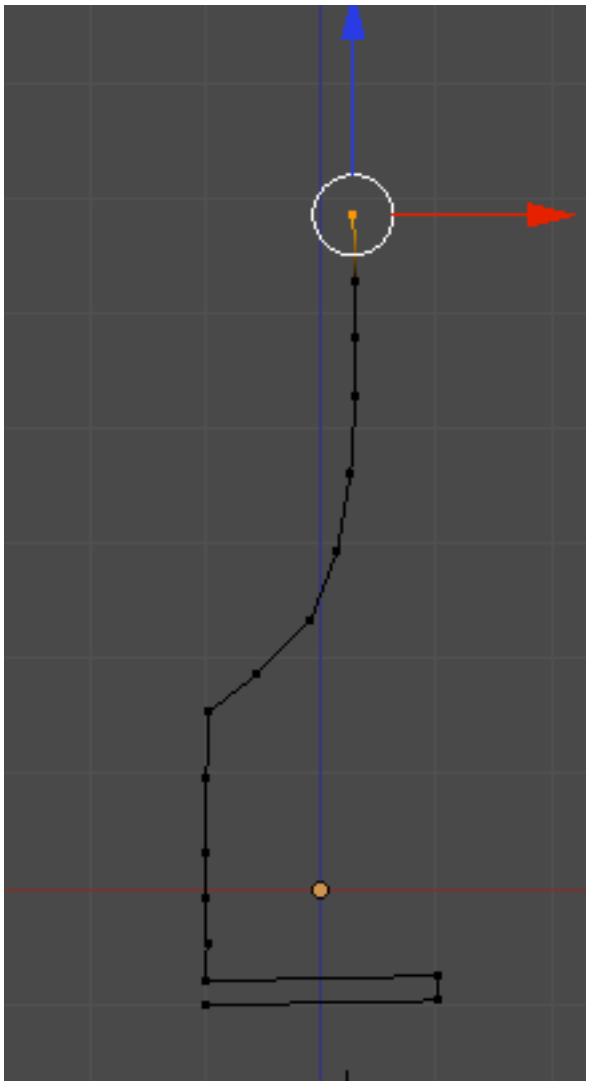
Our Plane object now consists of a single vertex. Select the vertex and move your cursor to the right and holding down your CTRL KEY left-click to create a second vertex a shown below.



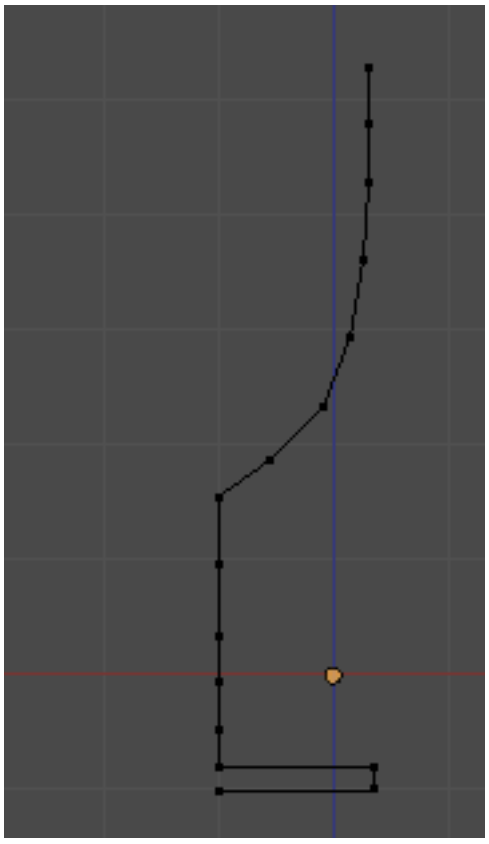
Hold down the CTRL KEY and create a third vertex just above the last.



Continue creating new vertices by holding down the CTRL KEY and left-clicking creating a profile of a wine glass as shown below. (NOTE: you can press CTRL to undo vertices you have made)

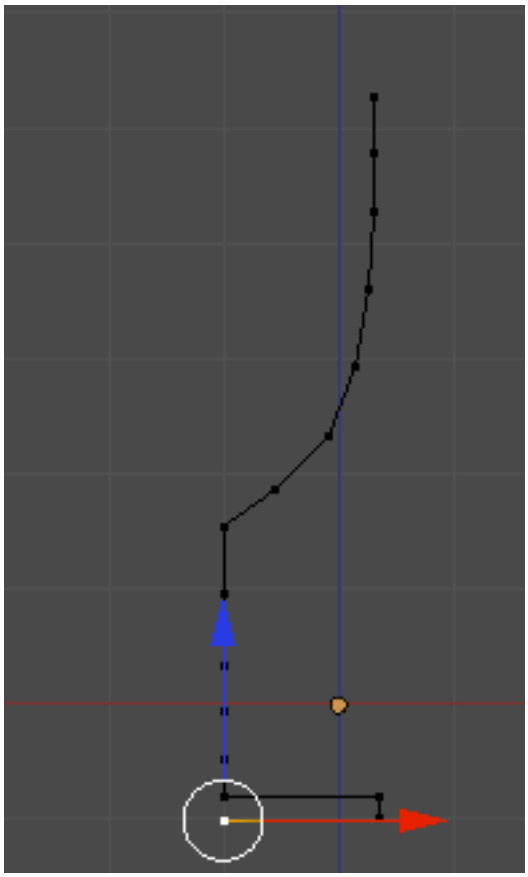


Go back and clean up the positions of the vertices to make them as smooth (or as straight) as possible. Use the grid as a guide. Make sure the base is not too large.

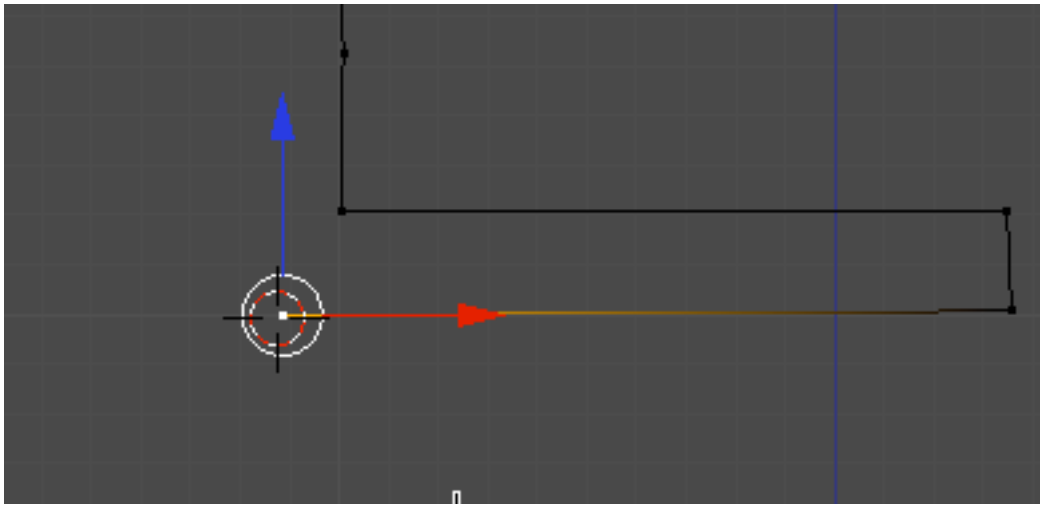


Save your Blend file (CTRL-W)

Select the first vertex.



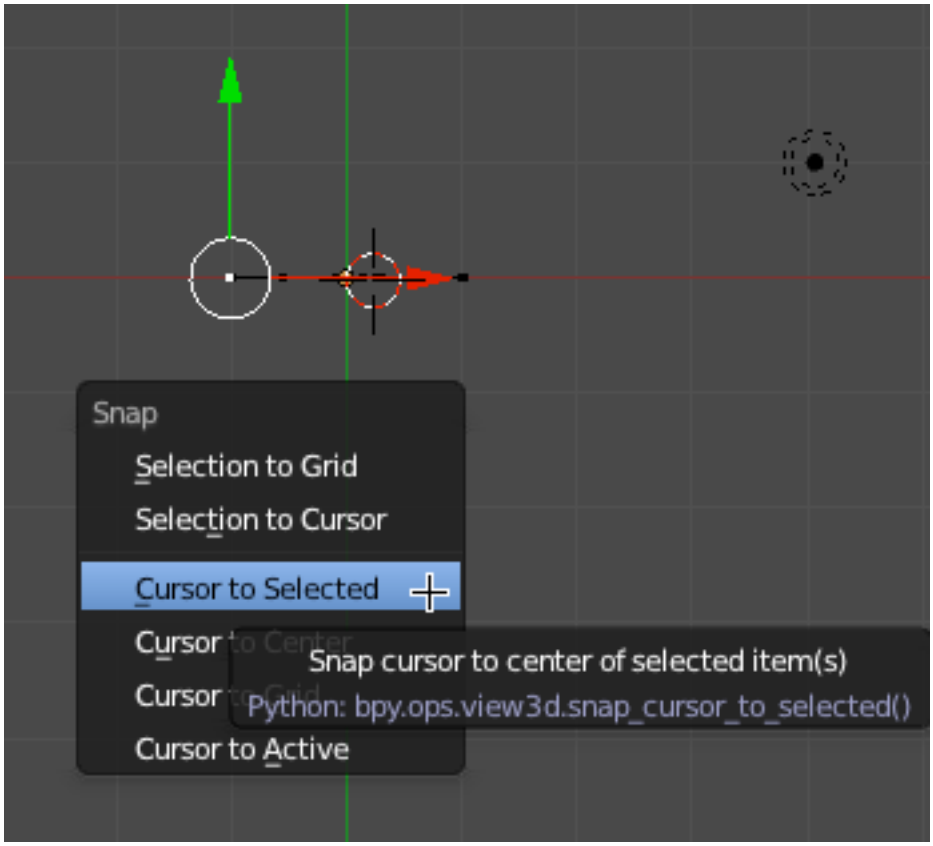
Move this vertex slightly to the left so that its position is to the left of the line of vertices that make up the stem.



Switch to top view. Blender's Spin tool will create a series of duplicate vertices in a circular fashion (clockwise or counter-clockwise) around a given point in the Z direction of the viewport. This given point is always the position of the 3D cursor.

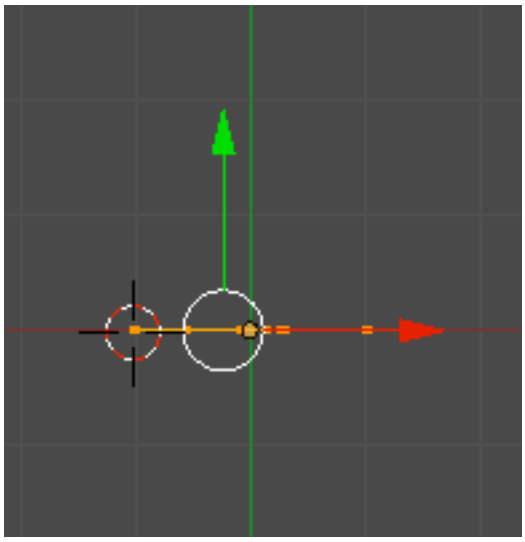
For this reason we need to position the 3D cursor in the top view so that it is in the exact center of the wine glass. This is why we selected the first vertex.

Press SHIFT-S (Snap Menu) and select Snap Cursor to S
election

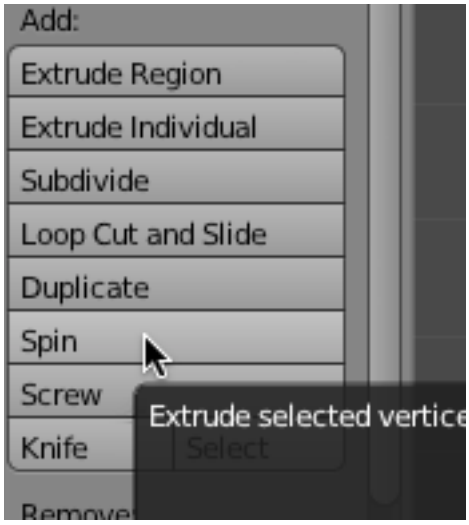


Our 3D cursor is now at the same position as the selected vertex (which is in the centerline of the wine glass.

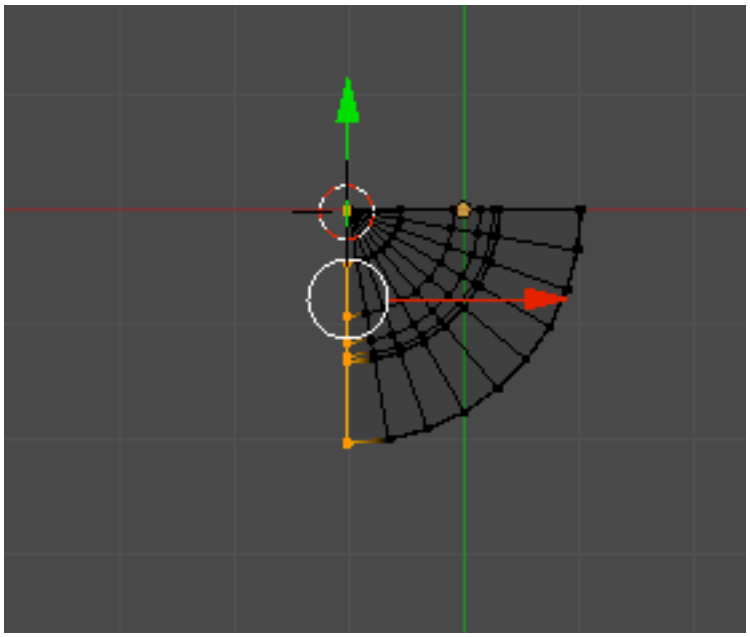
NOW PRESS THE AKEY TO SELECT ALL OF THE VERTICES.



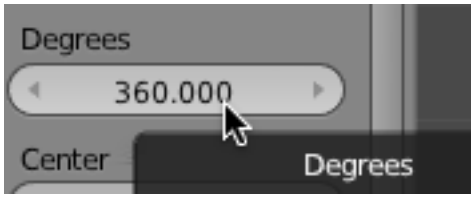
In the tools panel on the left, click on the SPIN button.

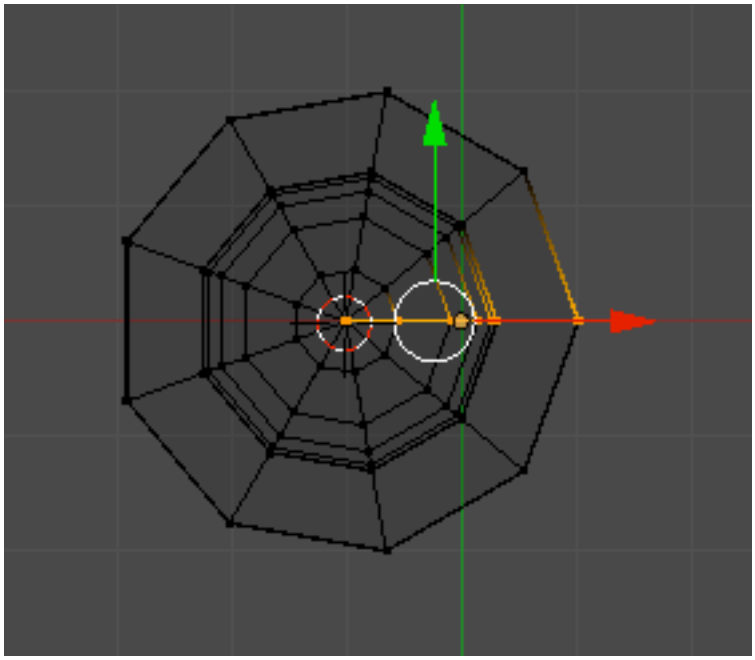


By default, the Blender spin tool spins the mesh 90 degreees.

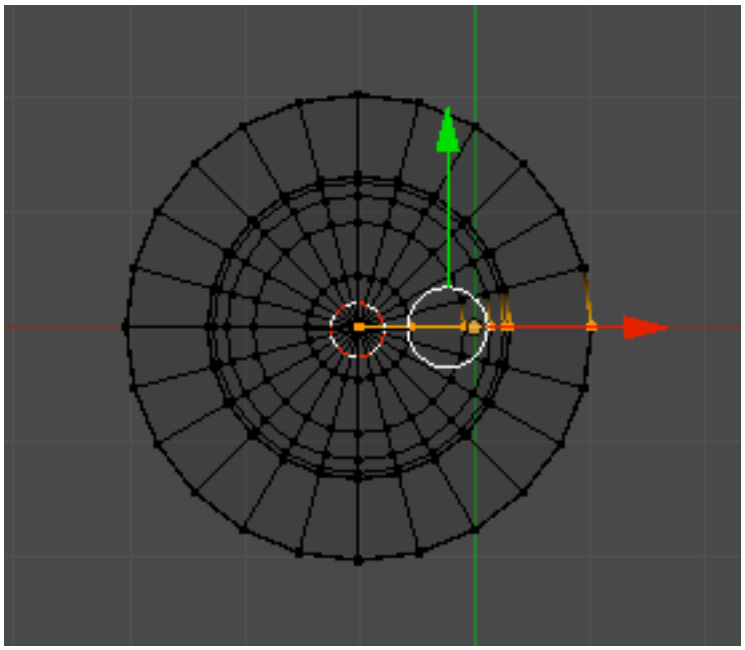


Set the degrees to 360



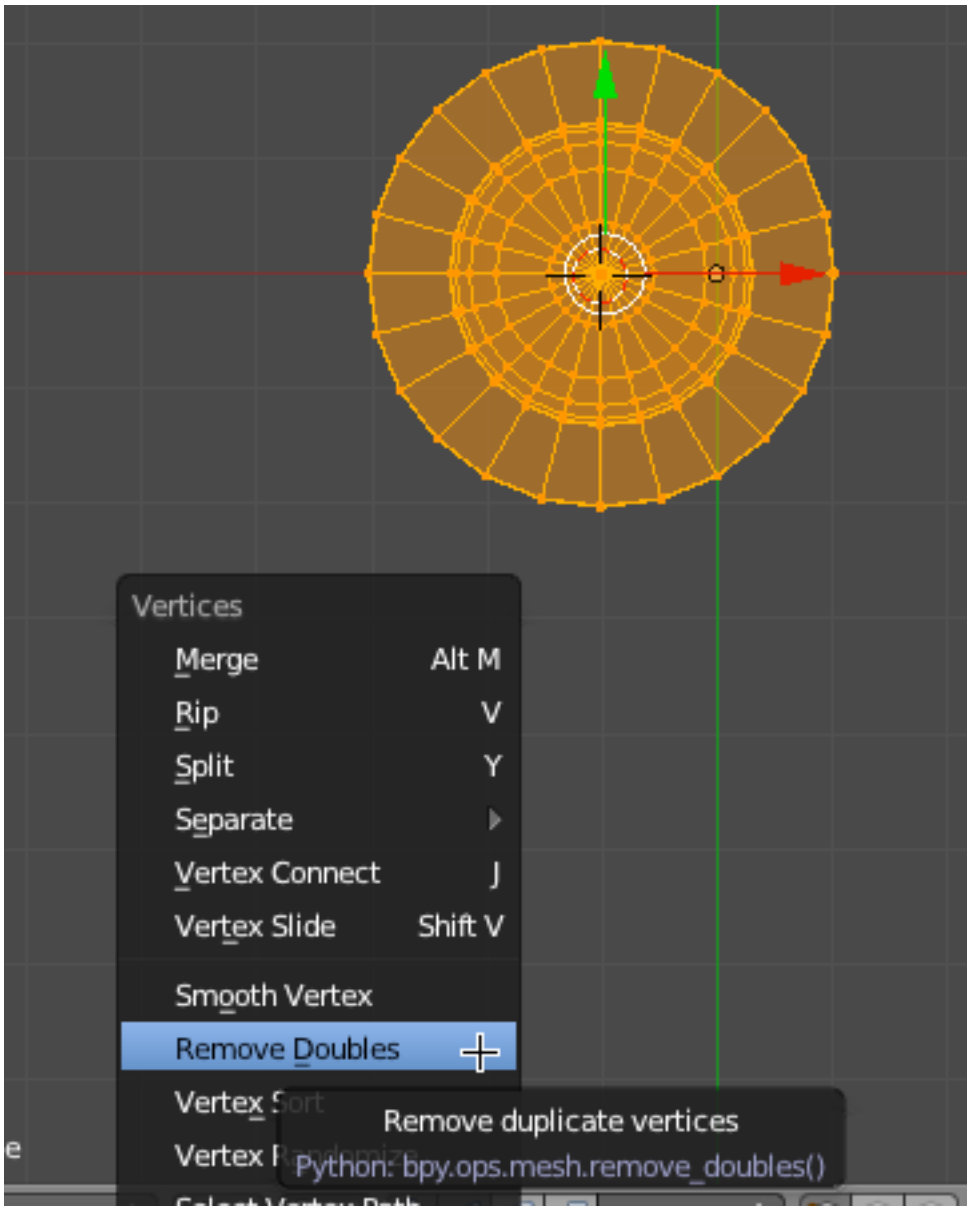


Set the steps to 24.

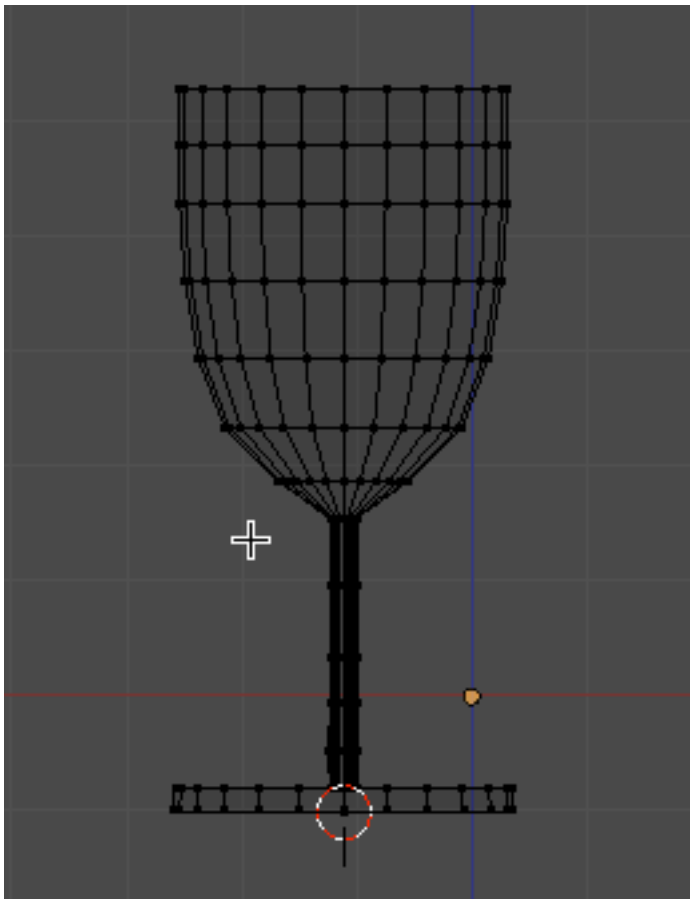


The spin mesh has duplicate vertices at the start/end point. Press the AKEY twice to select all of the vertices.

Press CTRL-V (Vertex Menu) and select “Remove Doubles”

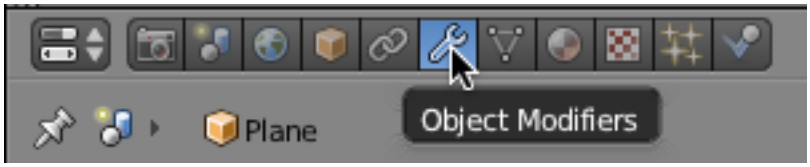


Blender will remove the doubles. Deselect the vertices. Switch to Front View.

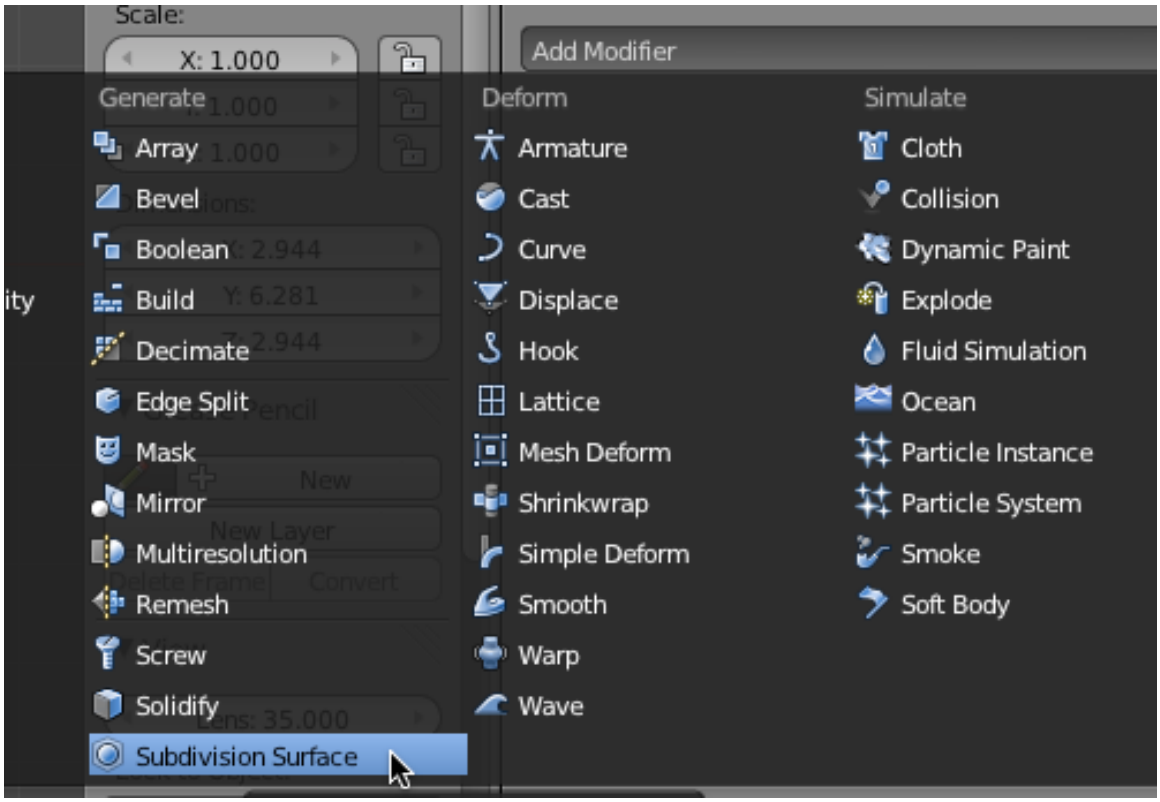


TAB out of Edit mode. Press the ZKEY for a solid shaded view.

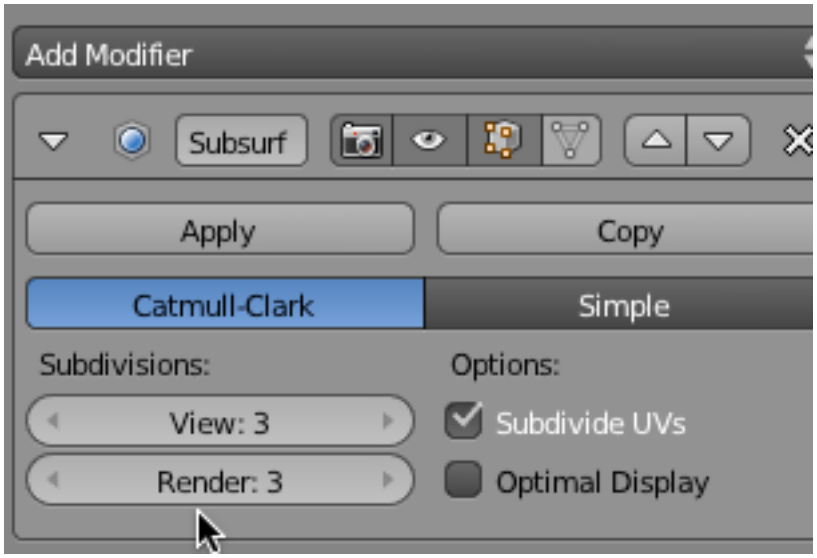
Go to the Modifier Editor.



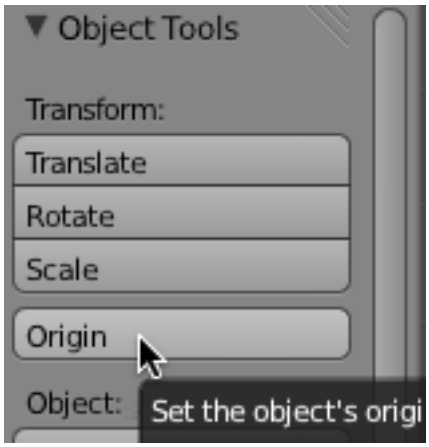
Press the Add Modifier button and add a “Subdivision Surface Modifier”.



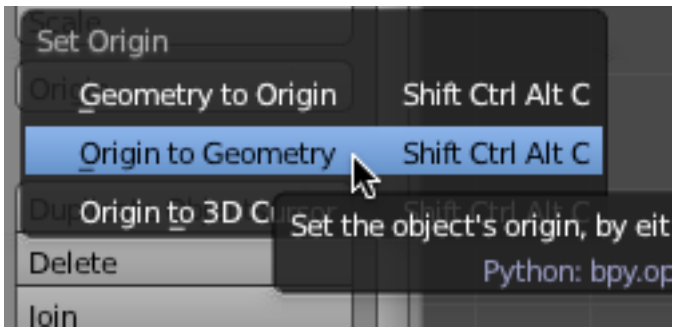
Set the View and Render subdivisions to 3.



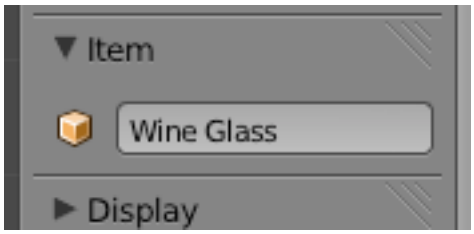
In the Tools Panel on the left press the “Origin” button.



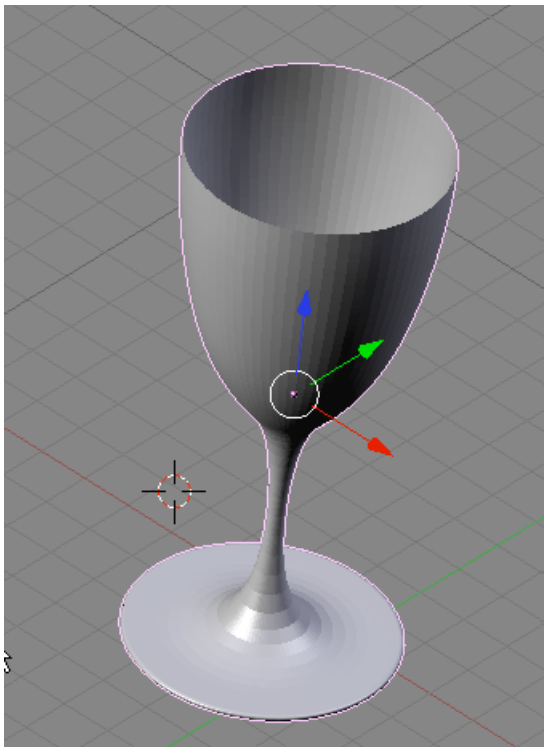
Select Origin to Geometry. This will set the cent point (origin) to the center of the mesh.



In the properties panel on the right, name this object “Wine Glass”.

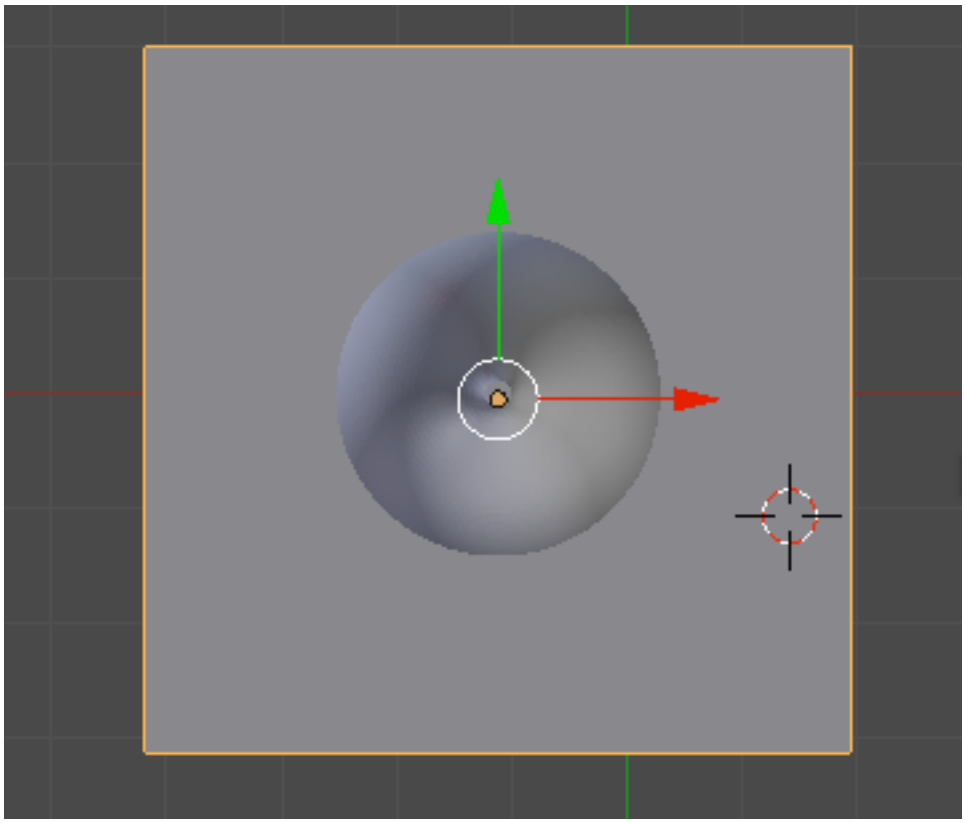


Save your Blend file.

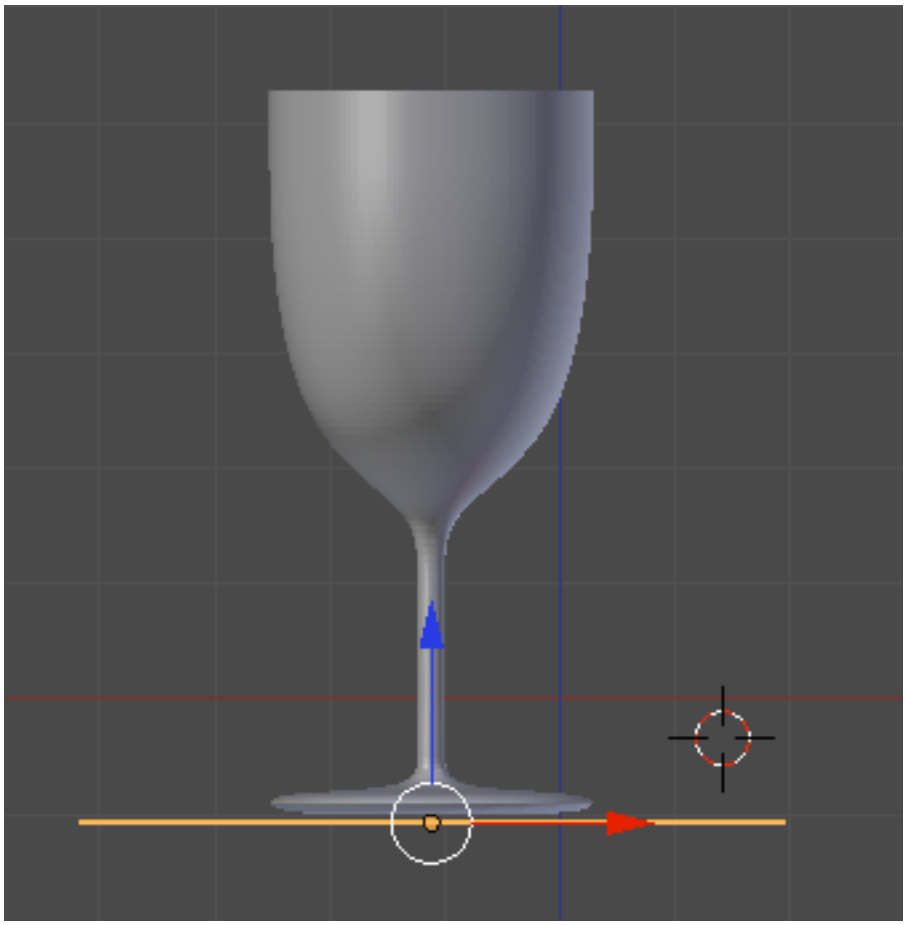


Switch to Top View. Press the AKEY to deselect the wine glass. Place your 3D cursor in the center of the glass. Press SHIFT-A and add a Plane object.

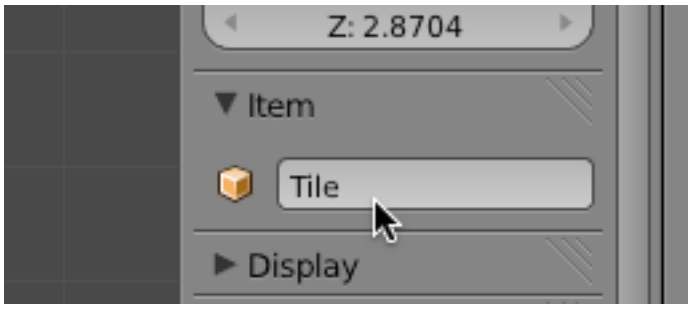
Press the SKEY and scale the Plane object up as shown below.



Switch to Front View. Use the 3D Manipulator Widget arrow to position the plane under the glass.



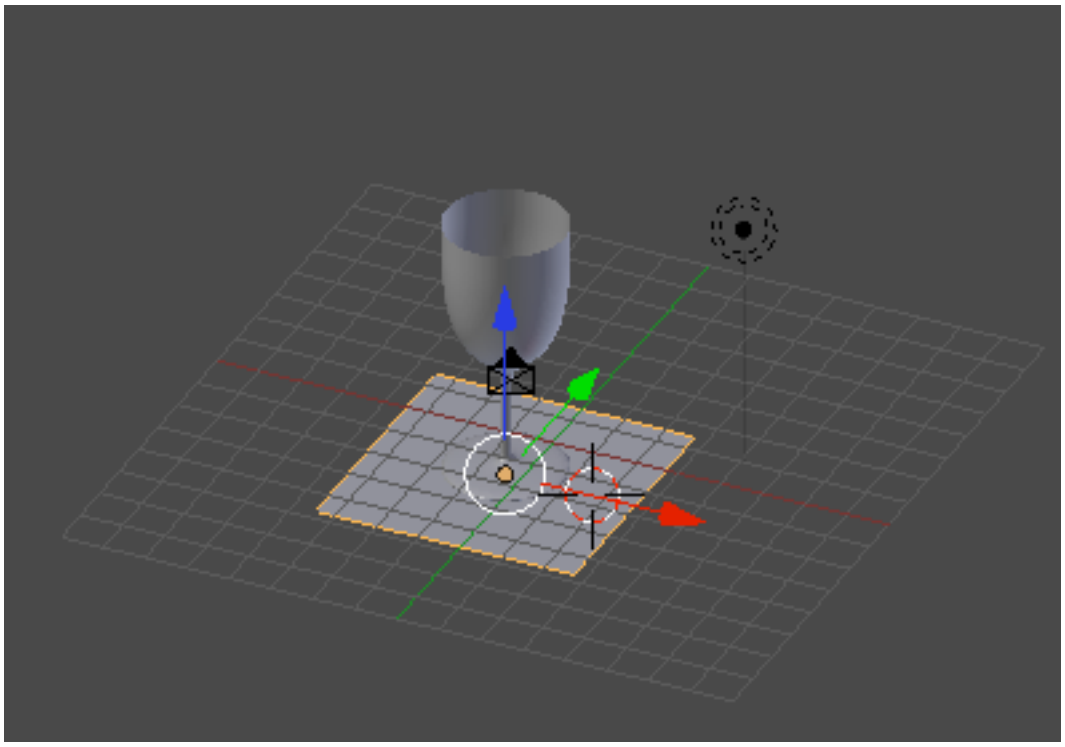
Name this object Tile



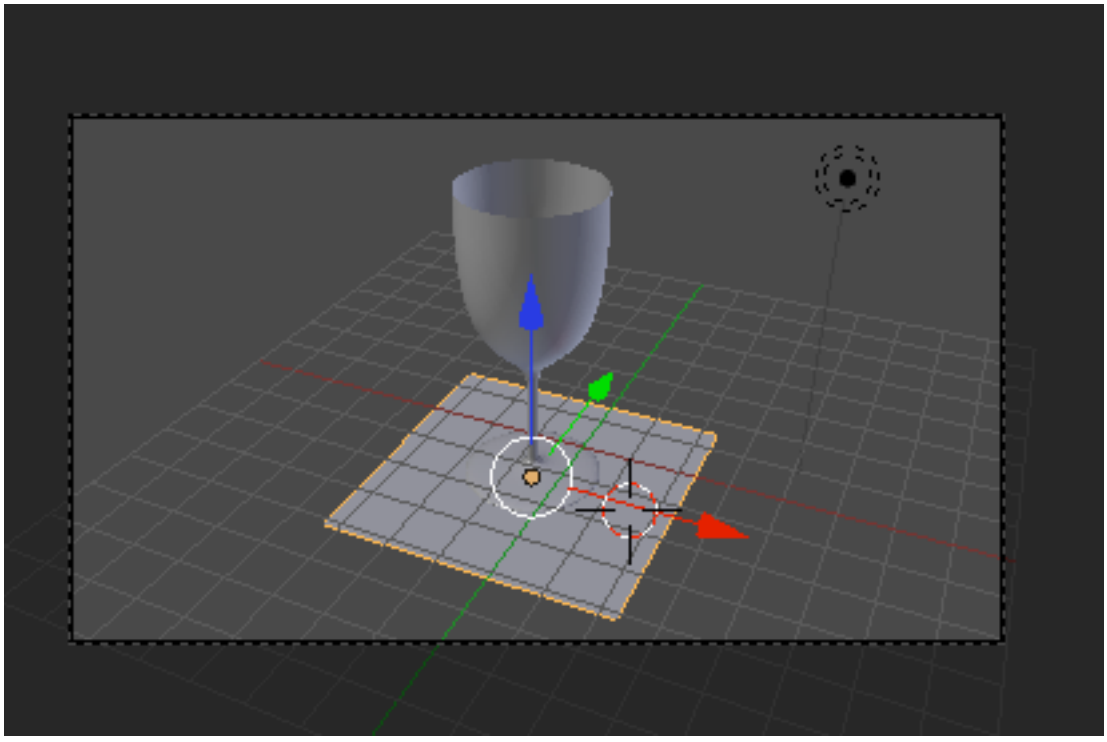
Save your Blend file.

Camera:

Go to a 3D perspective view (NUMPAD-5) and rotate your display to obtain a nice view of the wine glass and tile objects as shown below.

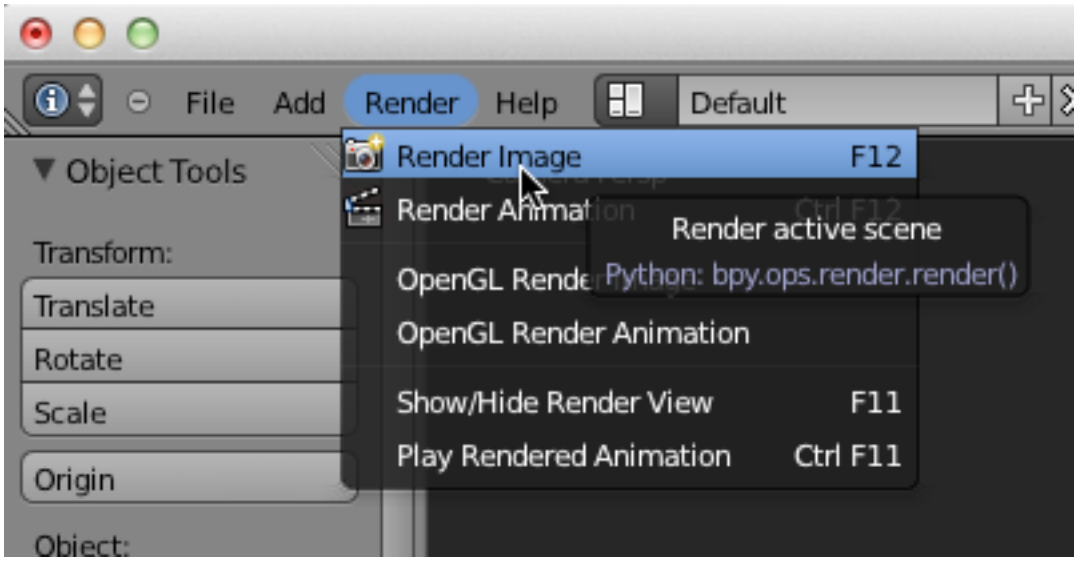


Press CTRL-ALT-NUMPAD-0 to align the camera with the view.

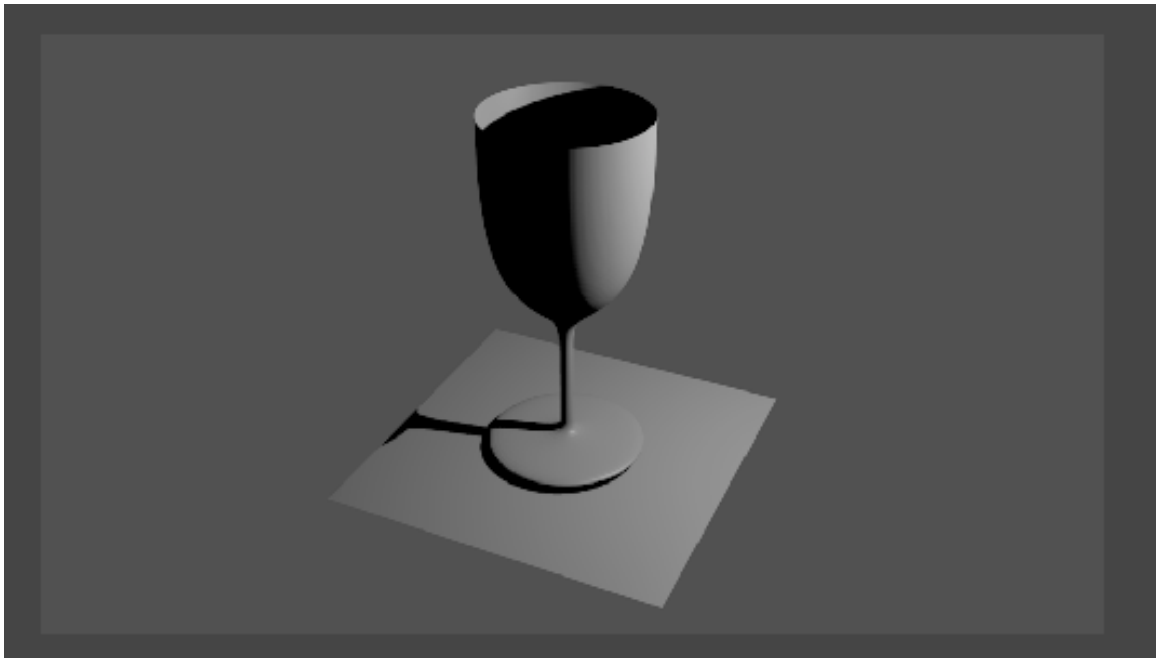


Note: You may have to go back and forth adjusted your display and re-aligning the camera to get the camera view you want. Pressing the NUMPAD-0 key will always display camera view.

in the top menu select Render / Render Image.



This will render the scene (as seen through the camera) in Blender's UV Image editor.

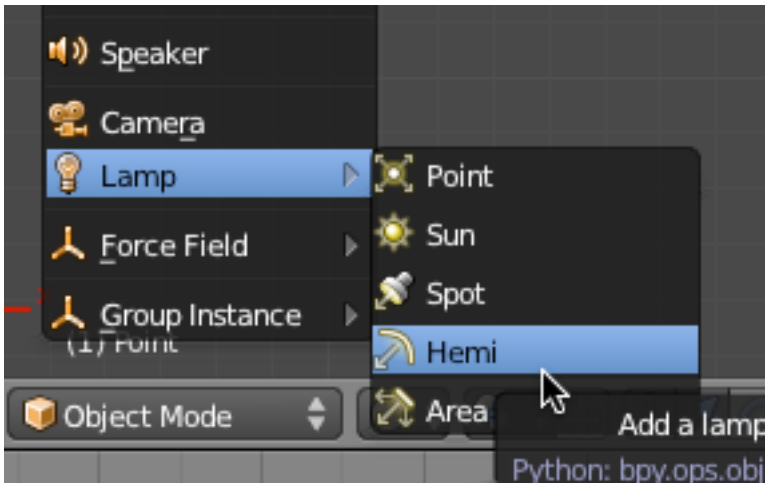


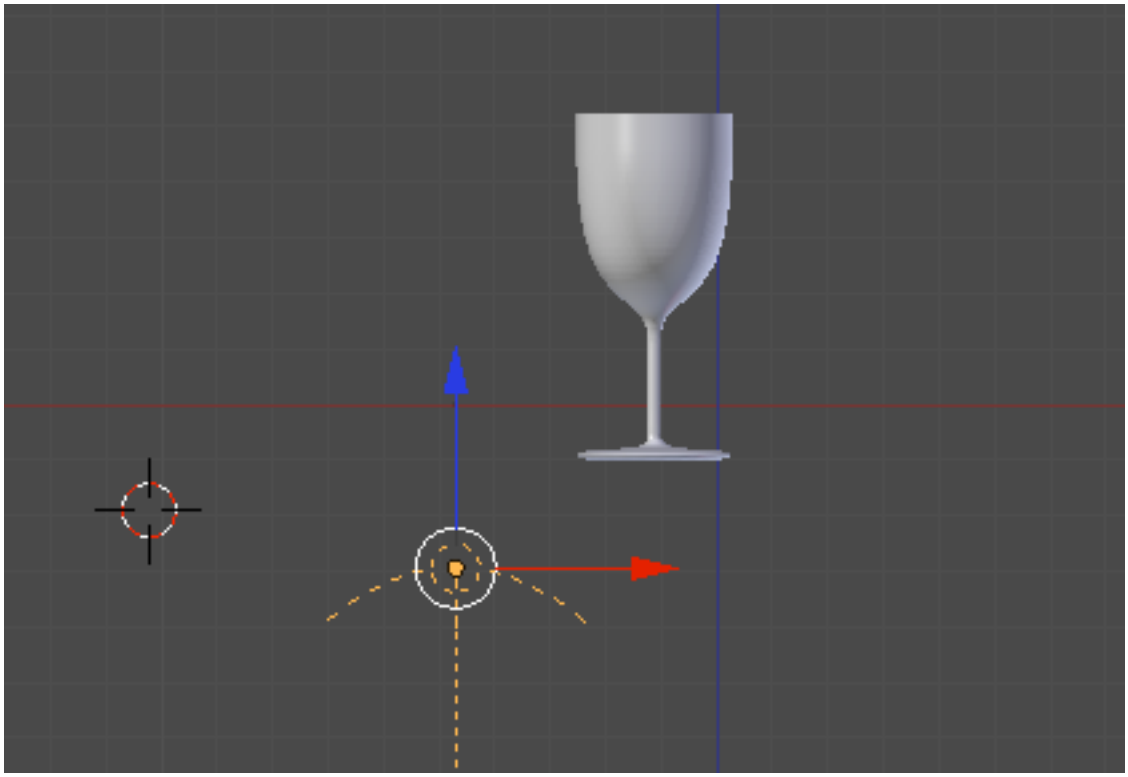
Press ESC (Escape) to return to the 3D editor.

Lighting:

Our scene could use some lighting adjustments. Go to front view. Select the default Blender Point lamp object and press the XKEY and delete it.

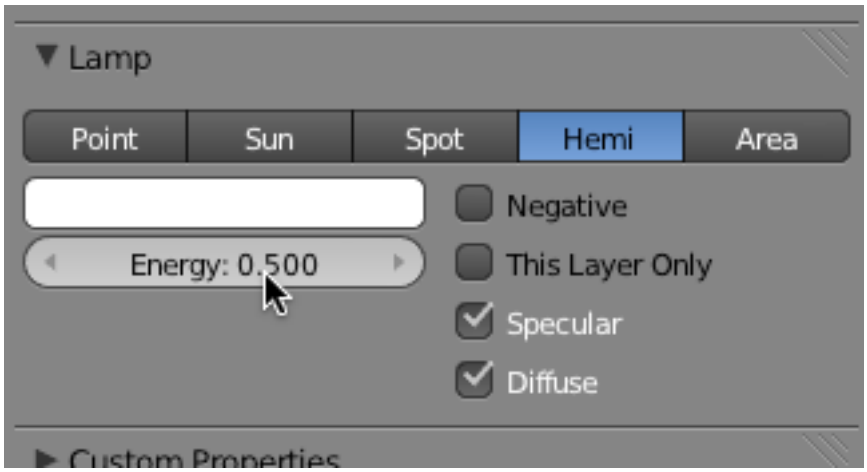
Place your 3D cursor below the wine glass object and press SHIFT-A and add a Hemi lamp.



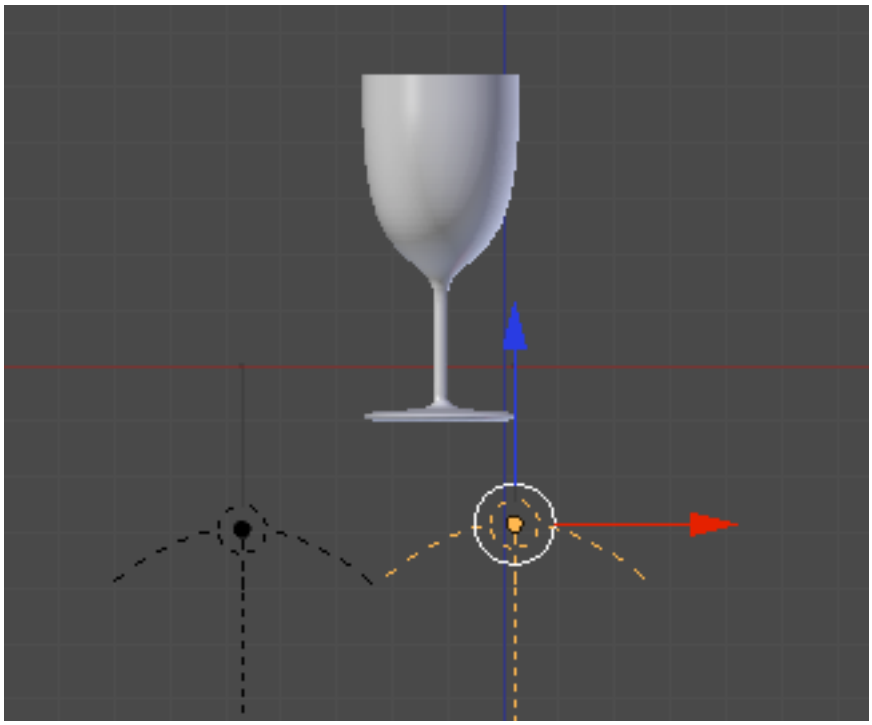


With the Hemi lamp object selected, click on the Object Data Editor.

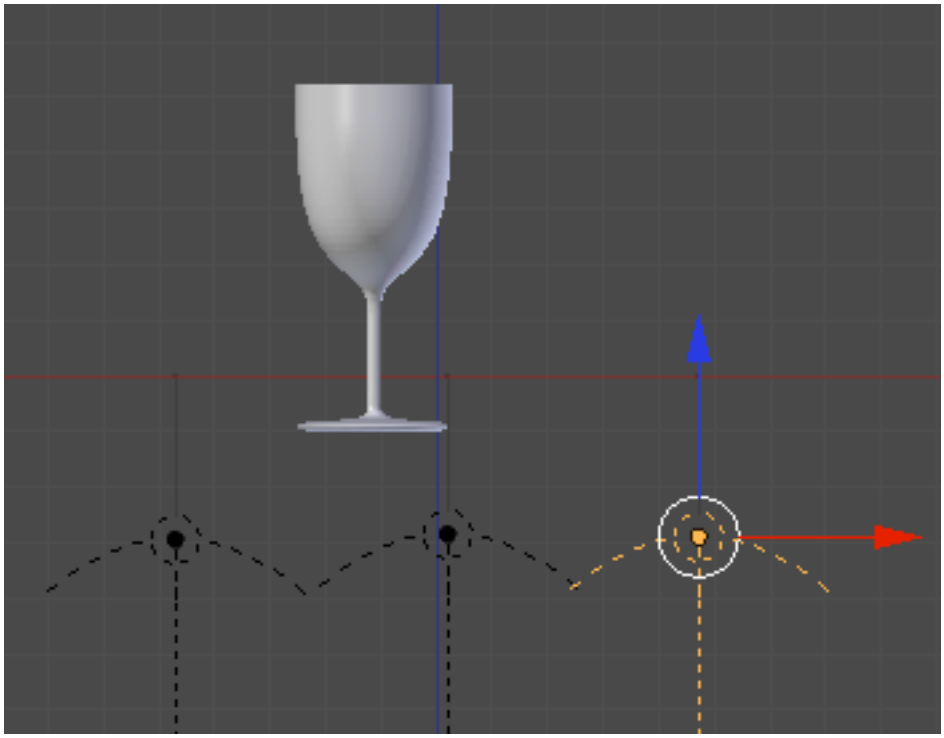
Set the Energy level to .5



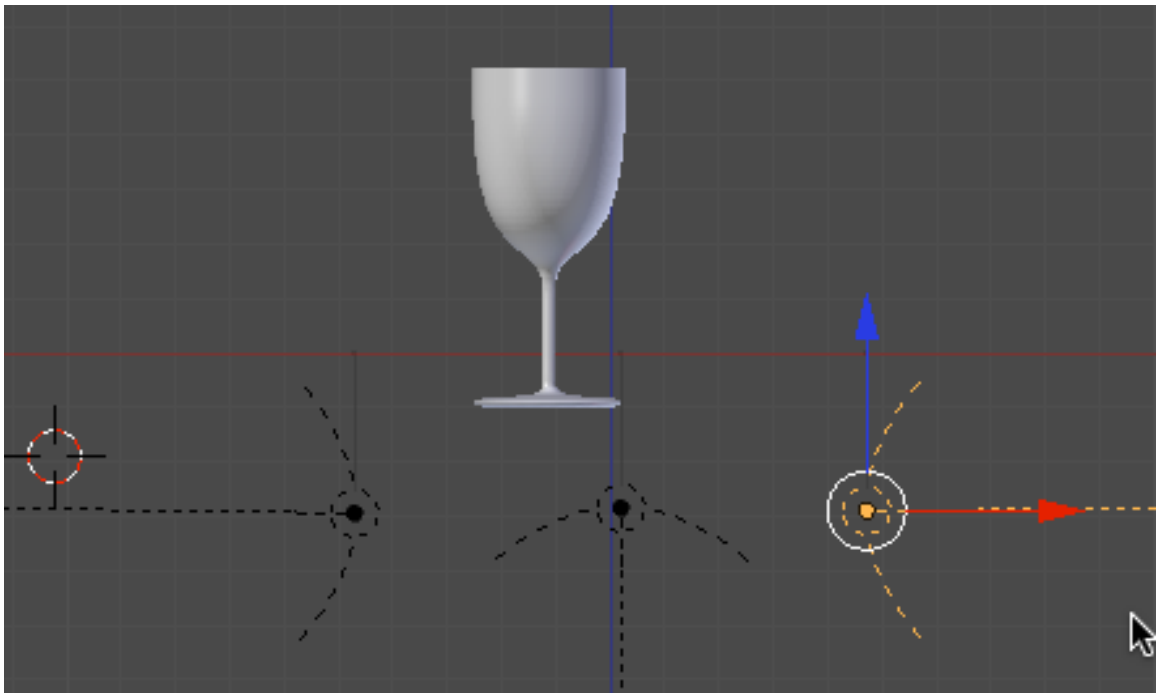
With the Hemi lamp selected, press SHIFT-D (Duplicate) and make a duplicate Hemi lamp object. Left-Click to set, Press the GKEY and move it to the side.



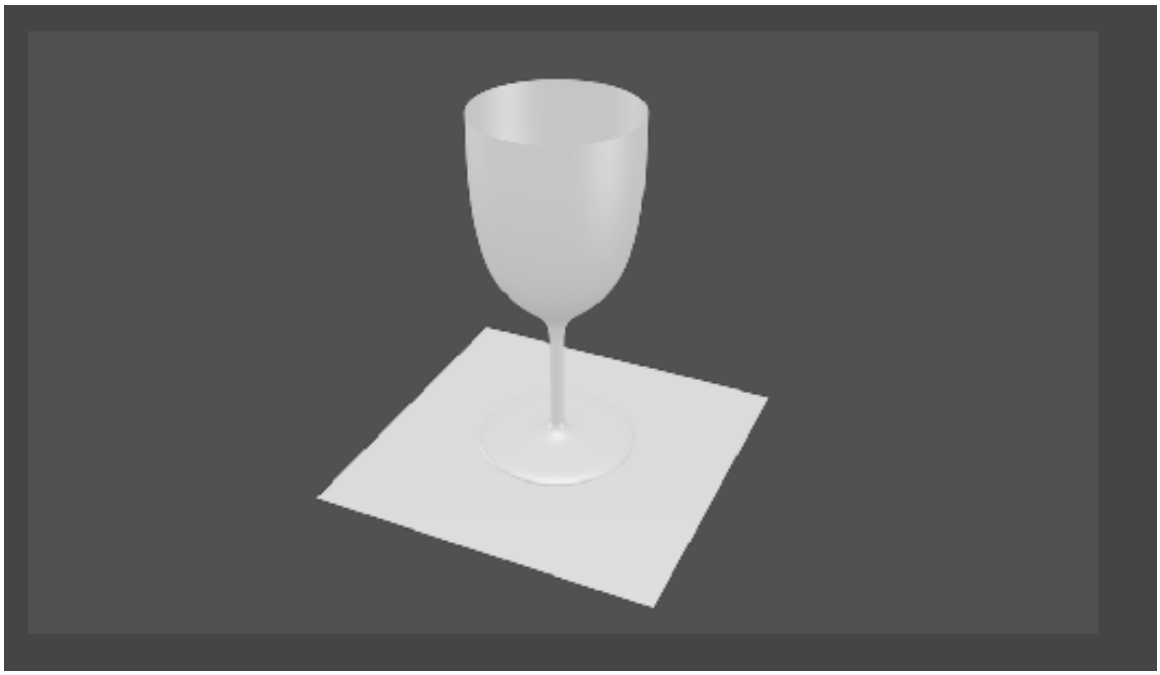
Select one of the Hemi lamps and make another duplicate.



Select one of the Hemi lamps and press the RKEY (Rotate) and rotate it to the left as shown below. Select another Hemi lamp and rotate it to the right as shown below.



Render the scene. It should look something like below.

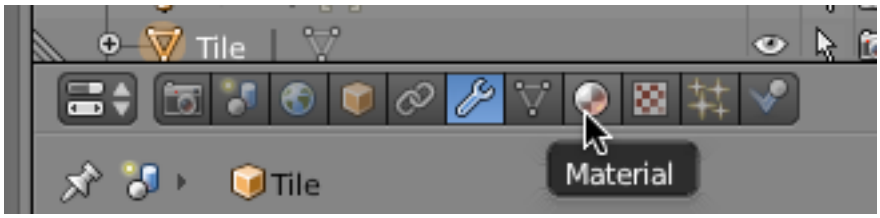


Save your Blend file.

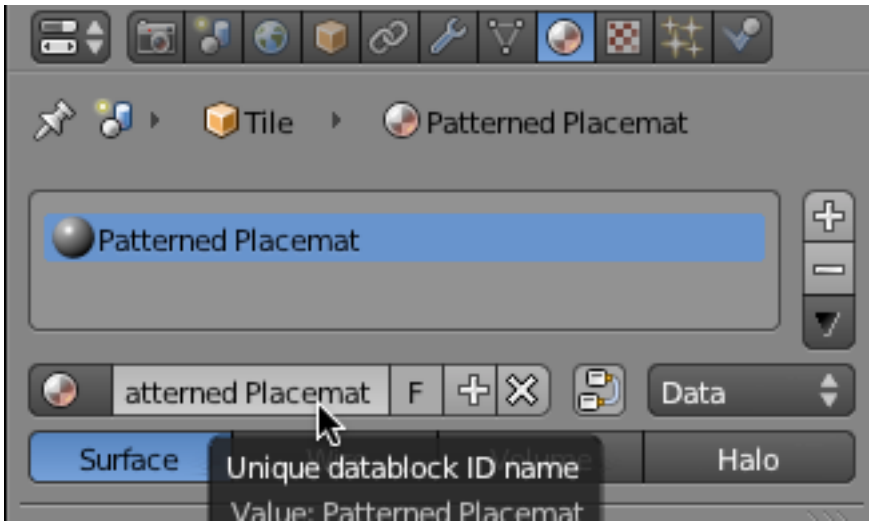
Materials.

We will first create a material for the Tile object using an image file. This image file is named DiamondPattern.jpg and can be downloaded HERE.

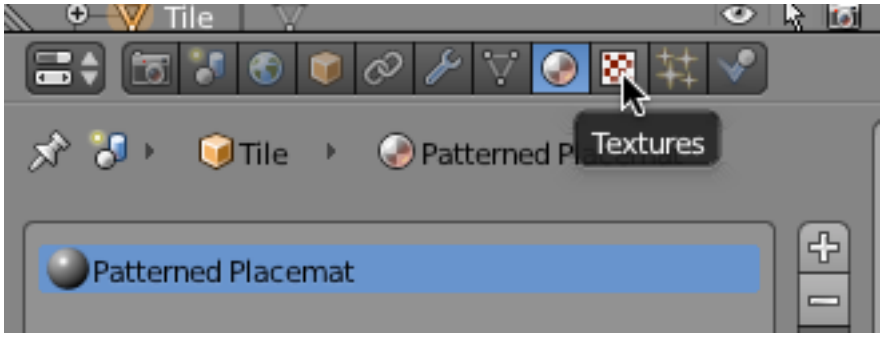
Select the Tile object. Go to the Material Editor.



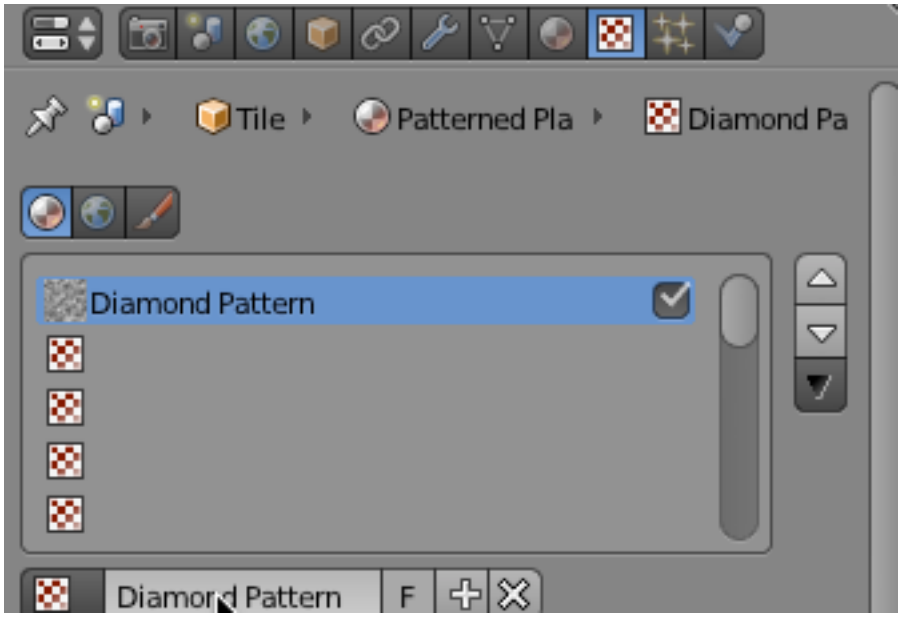
Press the NEW button and name this material Patterned Placemat.



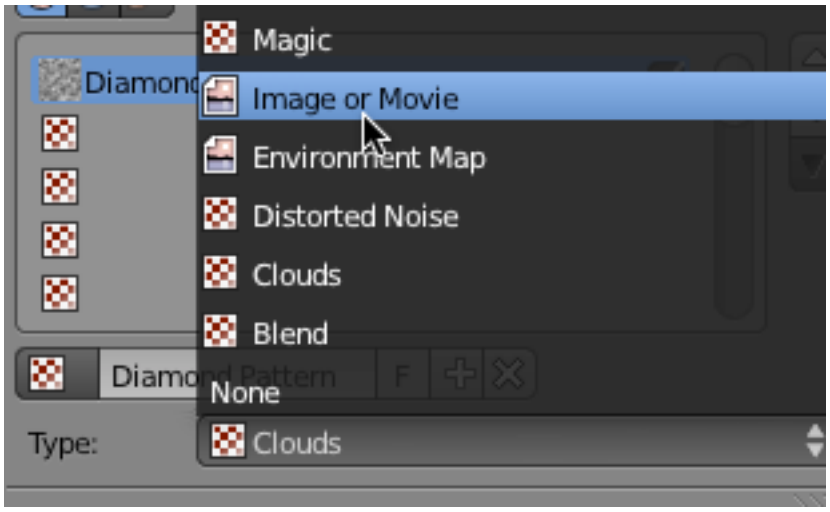
Go to the Texture Editor.



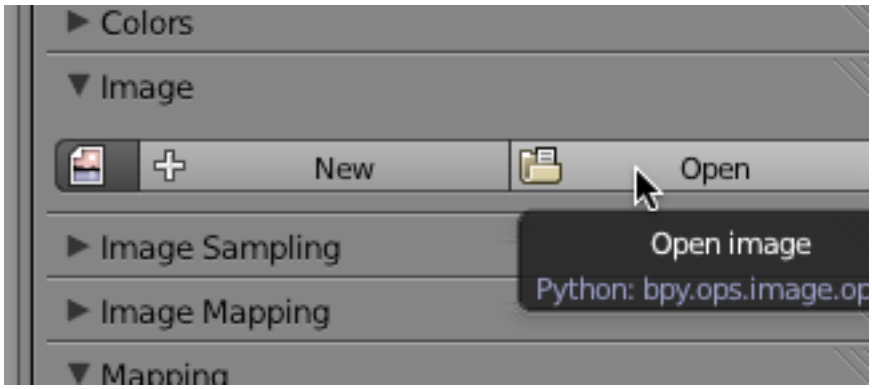
Press the New button. Name this texture Diamond Pattern.



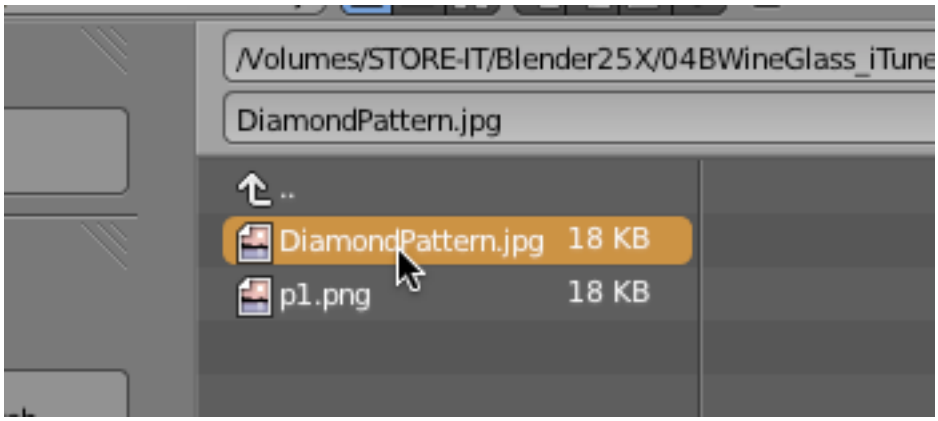
Change the Type to Image or Movie.



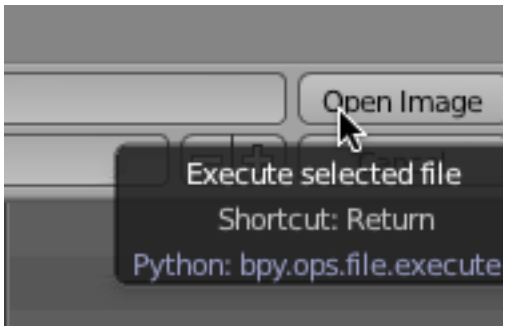
In the Image panel click on the Open button.



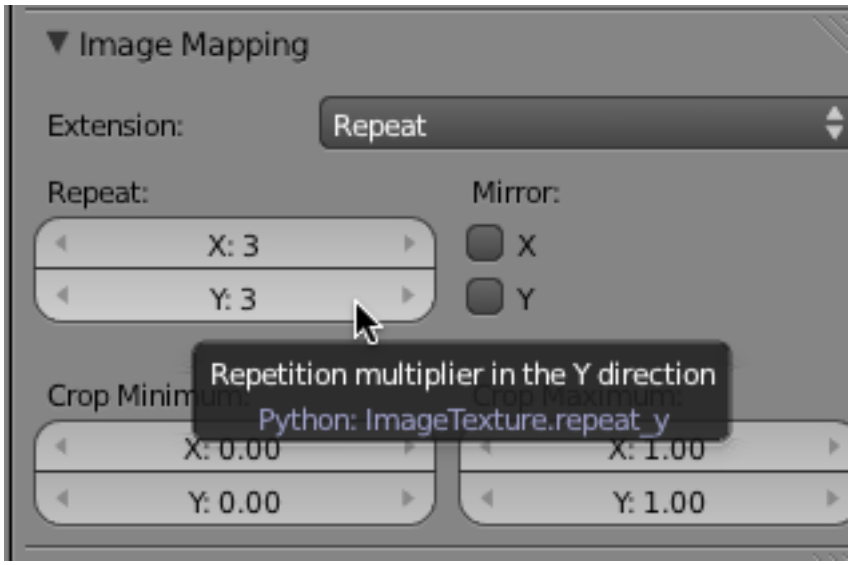
This displays Blender's file page. Locate the DiamondPattern.jpg on your computer and select it.



Press the Open Image button.

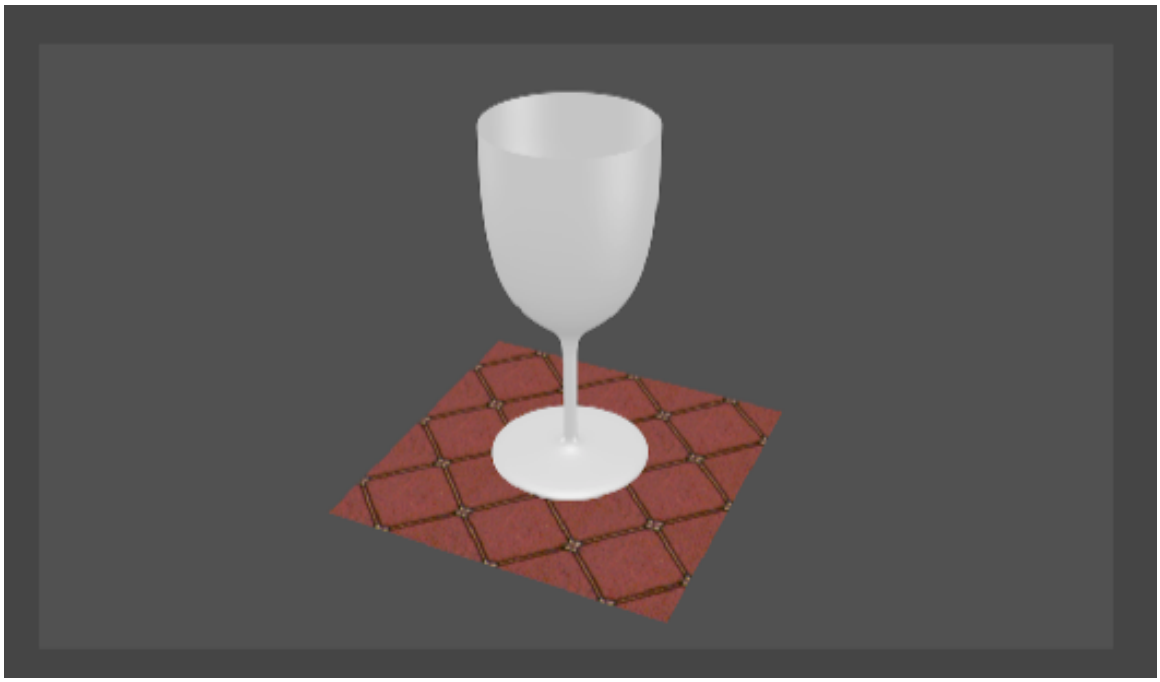


In the Mapping panel, set the X and Y repeat to 3



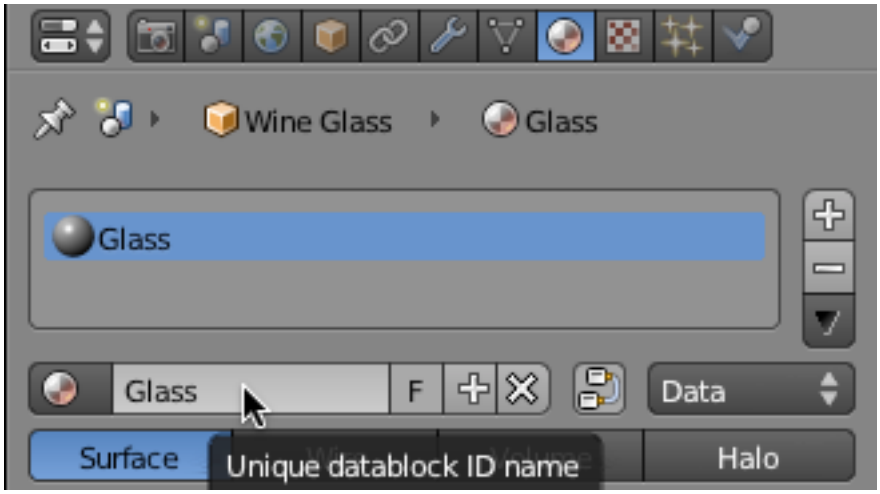
Go back to the Materials Editor. In the Specular panel, set the hardness to 200.

Render the scene.



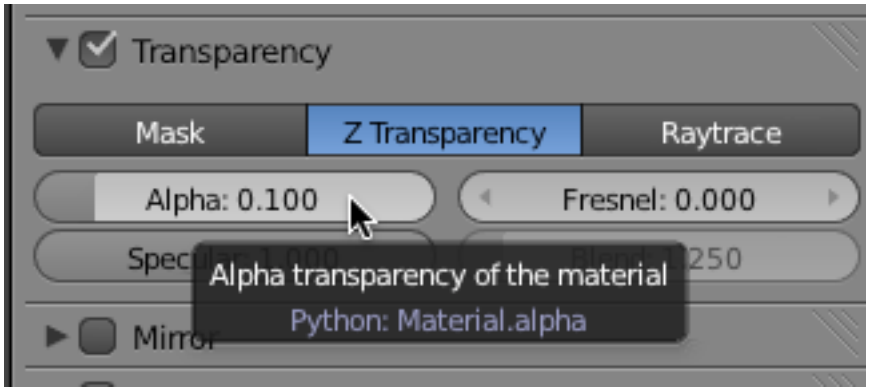
Save your Blend file.

Select the wine glass object. Go to the Materials Editor. Press the New button and name the material “Glass”.

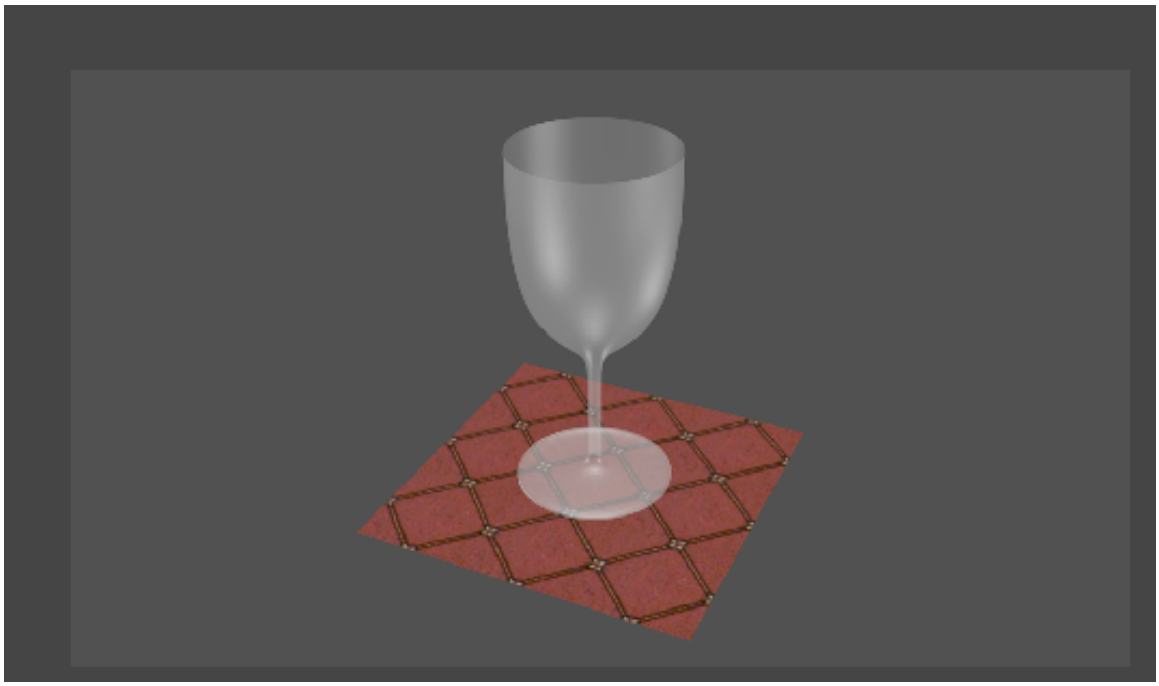


Click in the Diffuse color swatch and set the R, G and B slider controls to 1, making a full white diffuse color.

Checkmark the Transparency checkbox. Set the Alpha setting to .1

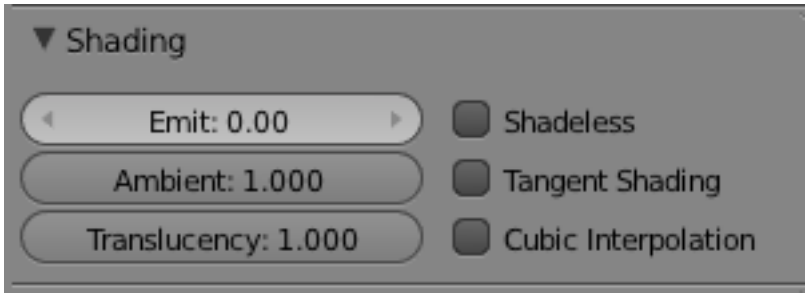


Render the scene.

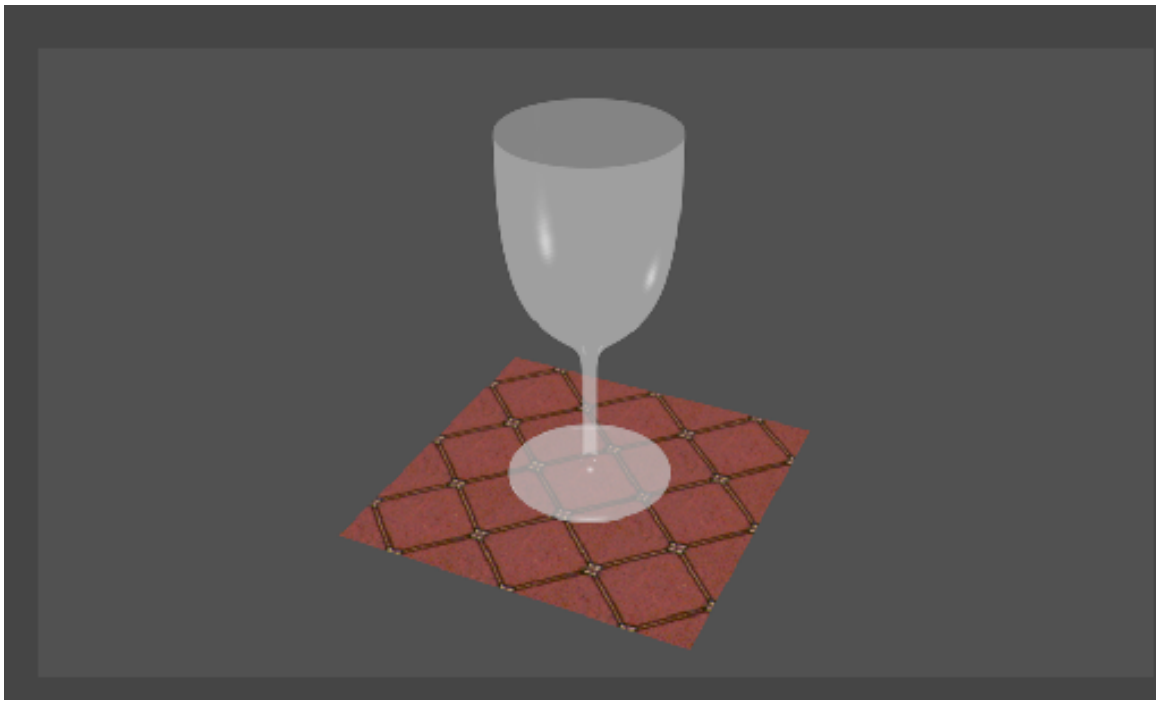


In the Specular panel, set the Hardness to 511

In the Shading panel, set the Translucency to 1, and the Ambient to 1



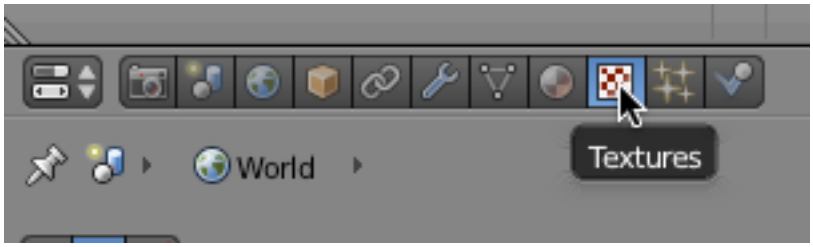
Render the scene.



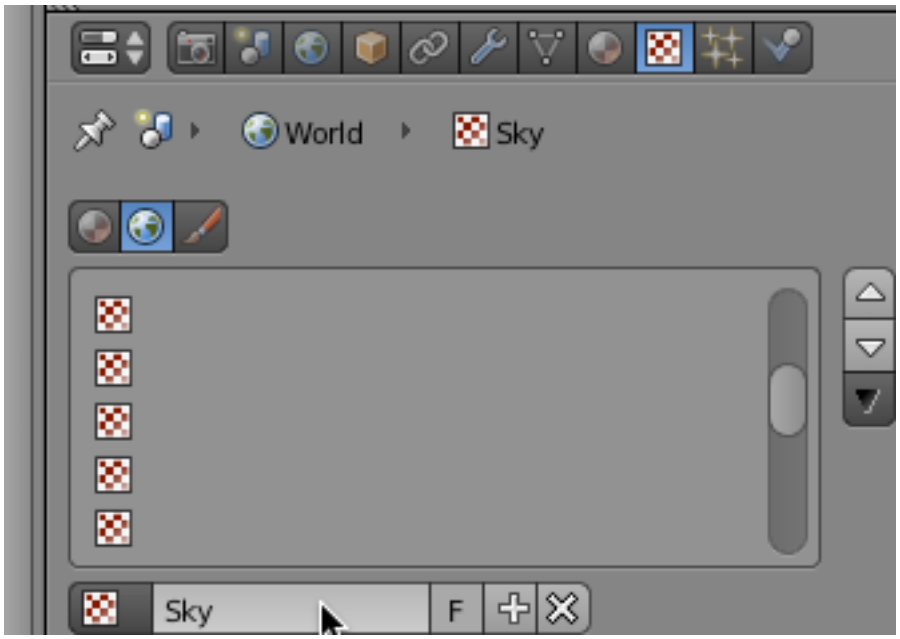
Go to the Word Editor.

We will add a sky image in the background that will be rendered with the scene. This image file is named “Sky.jpg” and can be downloaded HERE.

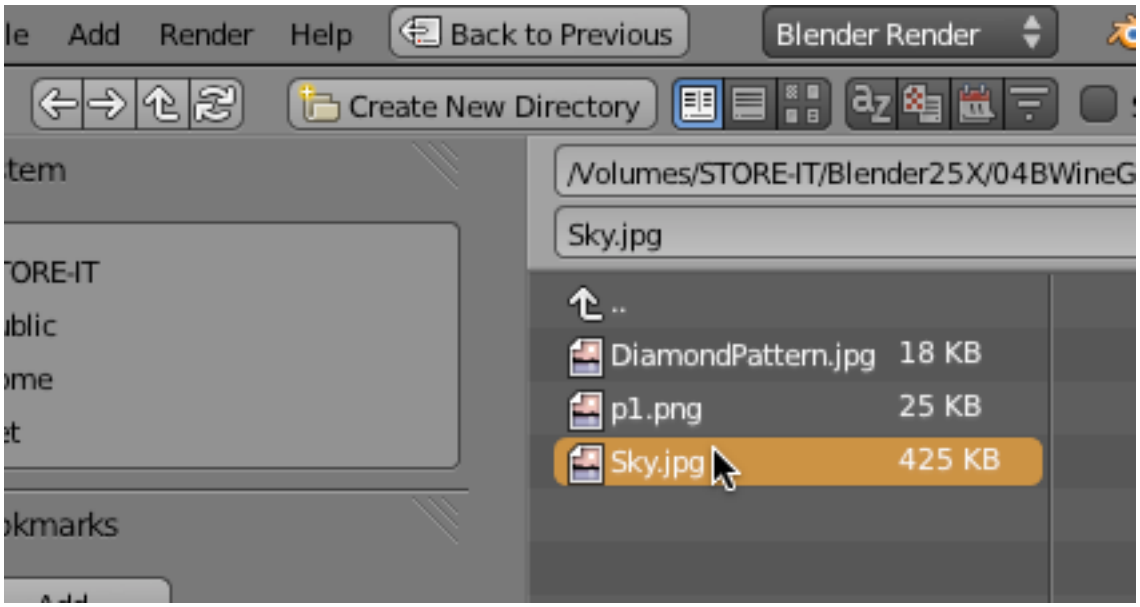
Make sure no objects are selected in the scene. Click on the Texture Editor (Note: you may have to click twice).



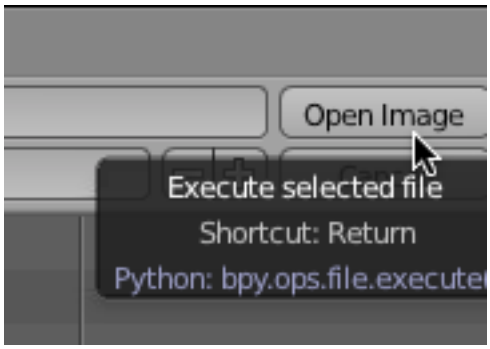
Click the New Button and name the Texture “Sky”.



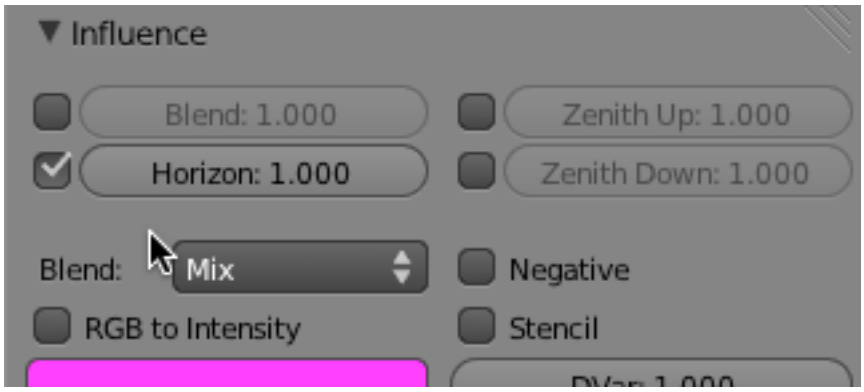
Change the Type to Image or Movie. Then click on the Open button, locate the Sky.jpg image file on your computer and select it.



Press the Open Image button.

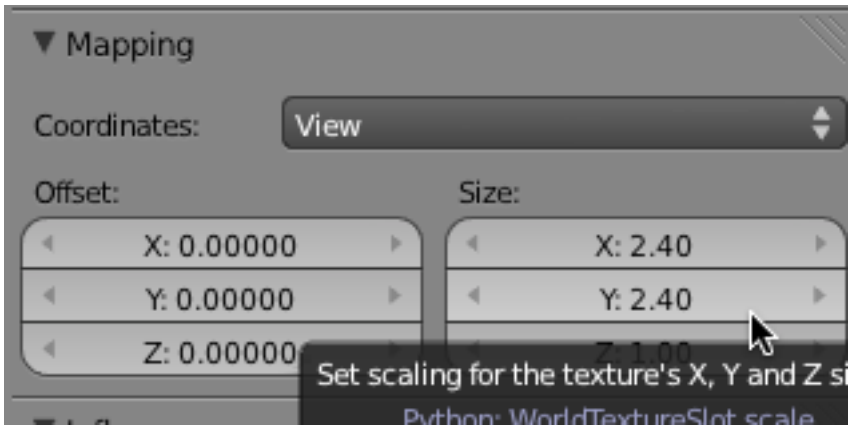


In the Influence panel, uncheck the Blend box and check the Horizon box.

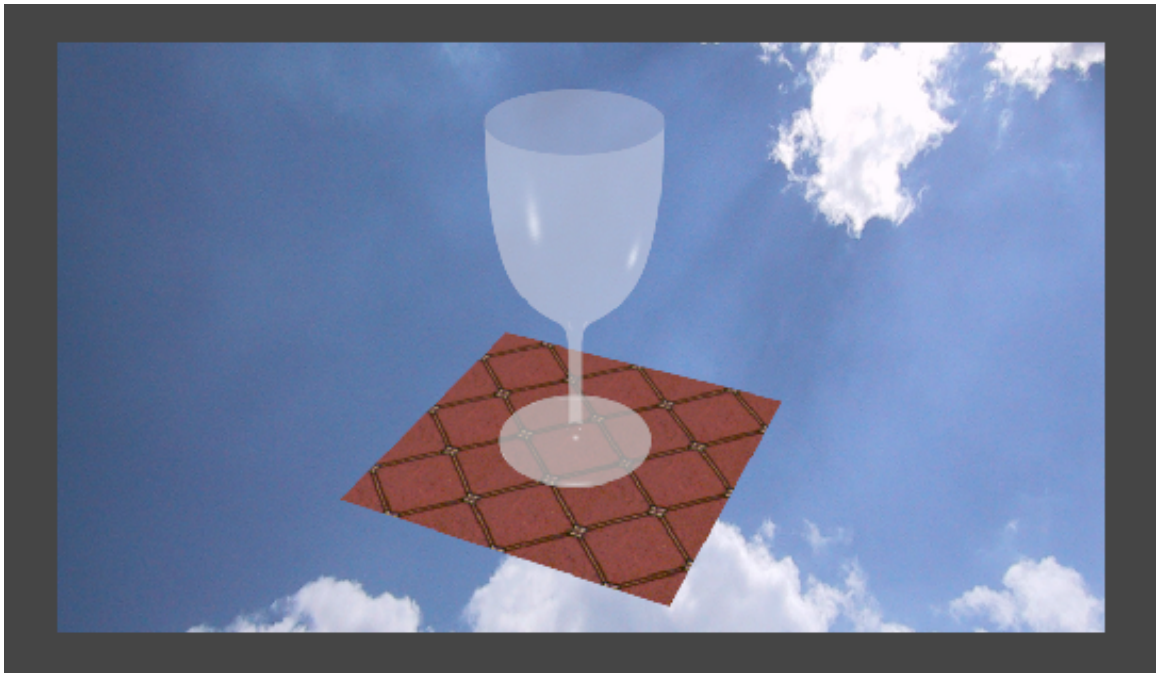


Scroll up to the Preview panel and select the World Button.

In the Mapping panel set the X and Y Size to 2.4



Render the scene. We now have a sky background.



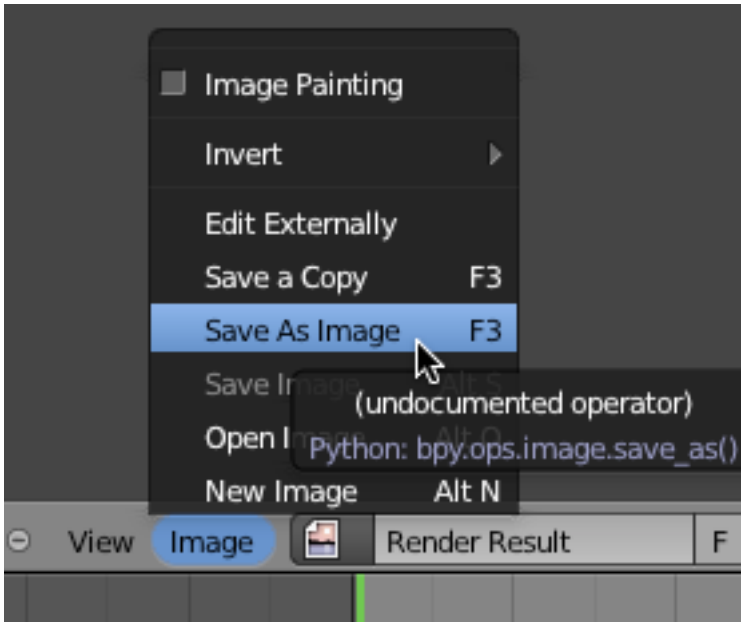
Let's add one last element. Press ESC (Escape) to go back to your 3D Vieewport. Select the Wine Glass object. Go to the Material editor.

In the Transparency panel change the type of transparency from Z-Transparency to Raytrace. Set the IOR at 1.37.

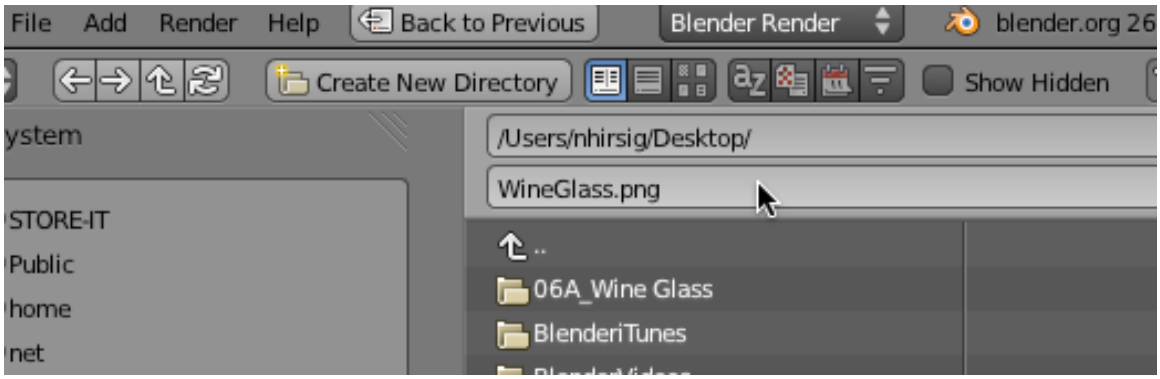
Render the scene.

Save your Blend file.

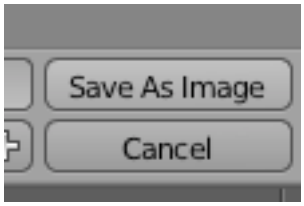
You can save an image file to your computer of this rendering. In the bottom menu of the UV Image Editor press Image / Save As Image



This displays Blender's File page. Decide where you want the file to be placed (I choose my desktop) and name the file WineGlass.png.



Press the Save As Image button.



This will save an image file of the rendering and place it wherever you have chosen.

A completed blend file of this tutorial named “WineGlass_Complete.blend” can be downloaded HERE.