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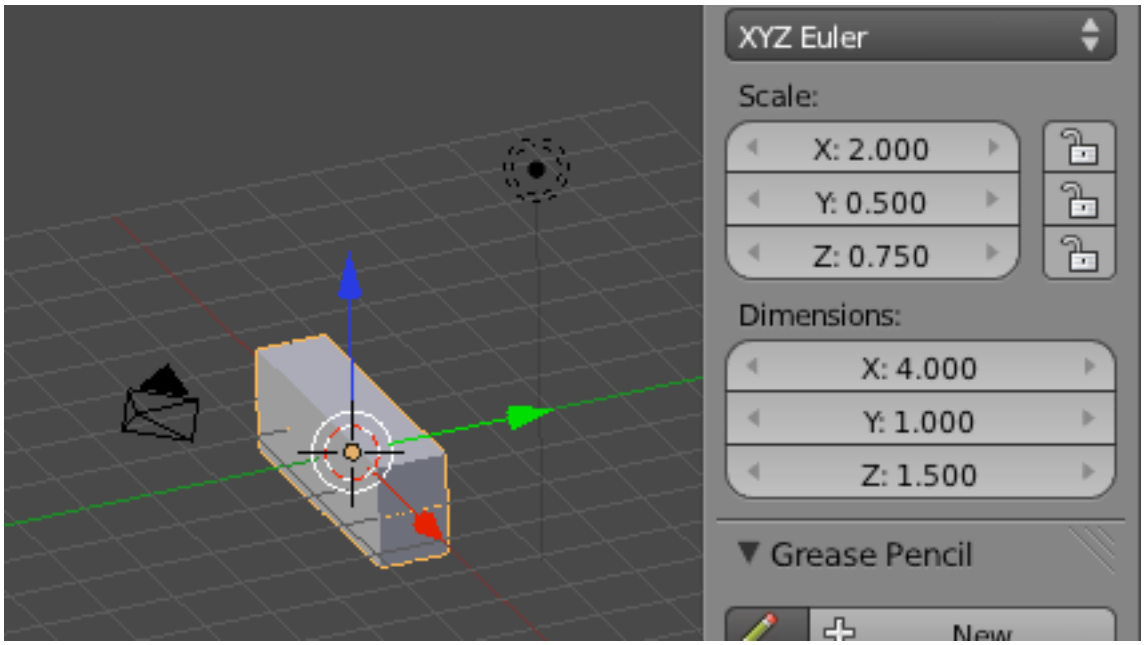
(May 2012)

Sword

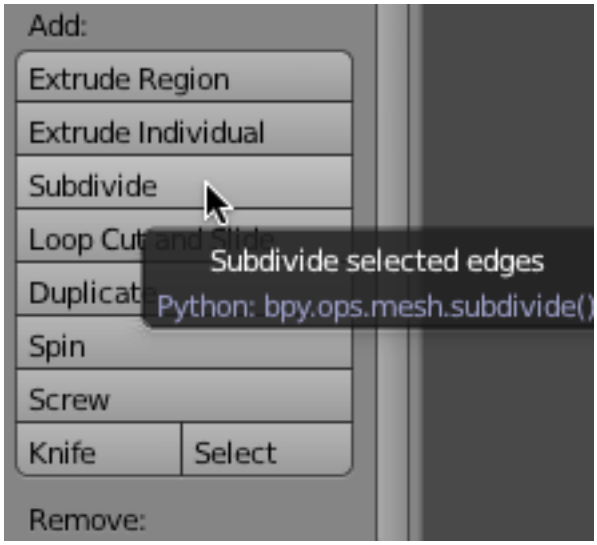
In this tutorial, we'll create a sword model as shown above.

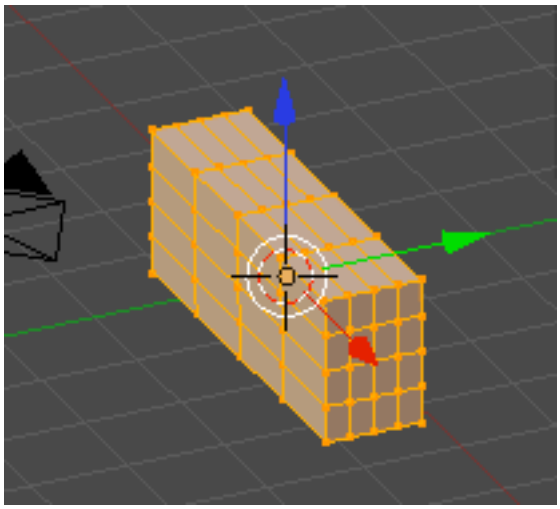
Open Blender. Press the NKEY to open up the Properties panel on the right.

We will begin by modeling the hilt. We will use the Default Cube Object for this object. Select the Default cube in Object Mode. In the Properties Panel on the right change the Dimension X: to 4, Dimension Y to 1 and Dimension Z to 1.5



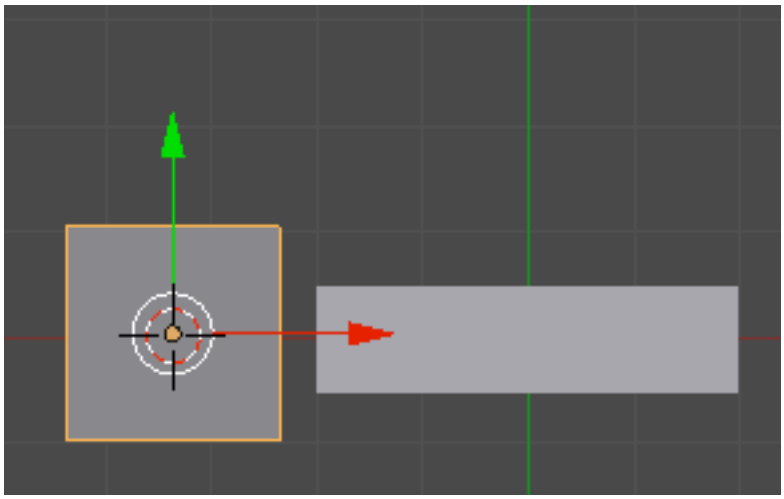
TAB to Edit Mode. In the Tools Panel on the left, press the Subdivide button Twice.



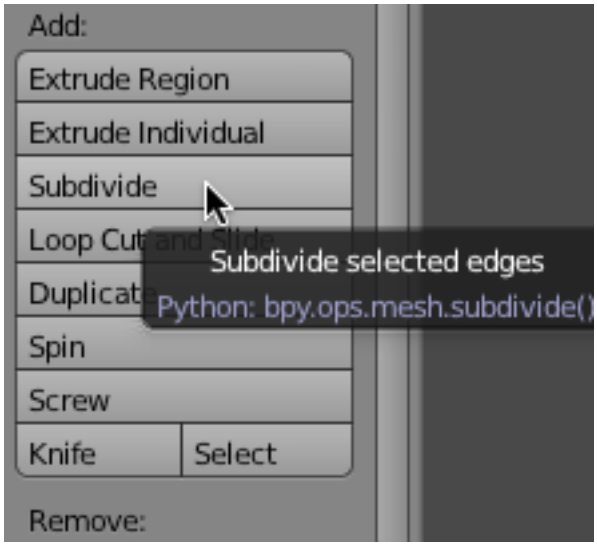


TAB out of Edit Mode.

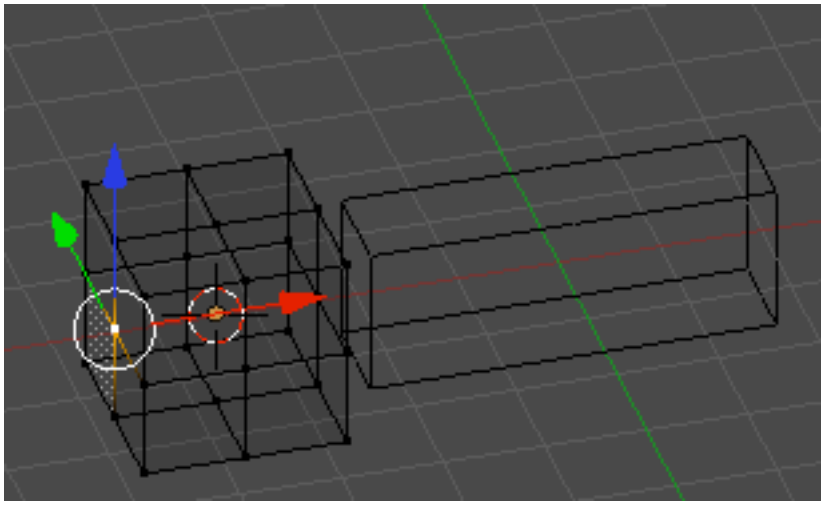
In Top View, place your 3D cursor to left of the default cube. Press SHIFT-A and add a Cube object as shown below.



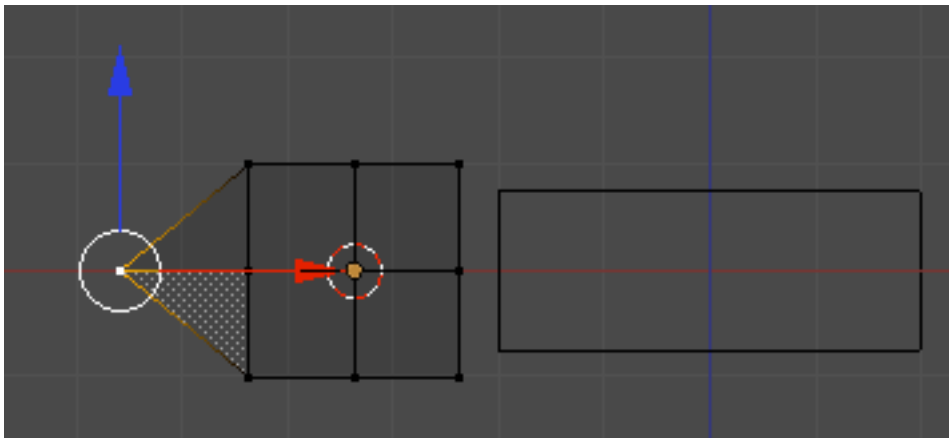
TAB into edit mode and subdivide this cube once.



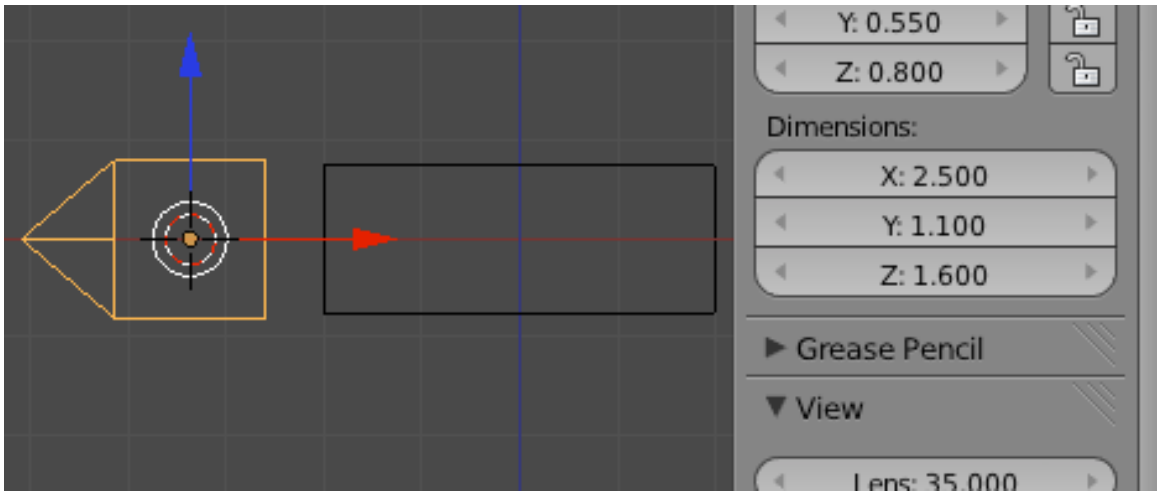
Press the AKEY to deselect the vertices. ZKEY into wireframe mode. Rotate your display a bit to see the modeling more dimensionally. Select the center vertex on the left of the cube object as shown below.



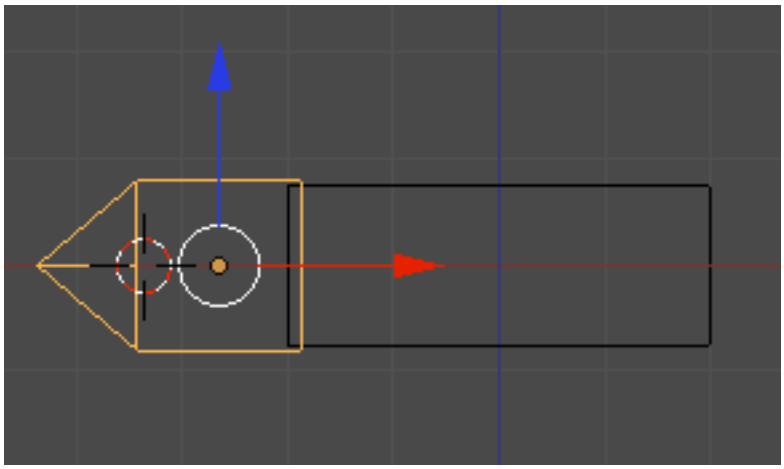
Switch to Front View. Use the Red Transform Widget Arrow and move the vertex out to the left as shown.



TAB out of Edit Mode. In the Properties Panel Change the Dimension X to 2.5, Dimension Y to 1.1 and Dimension Z to 1.6

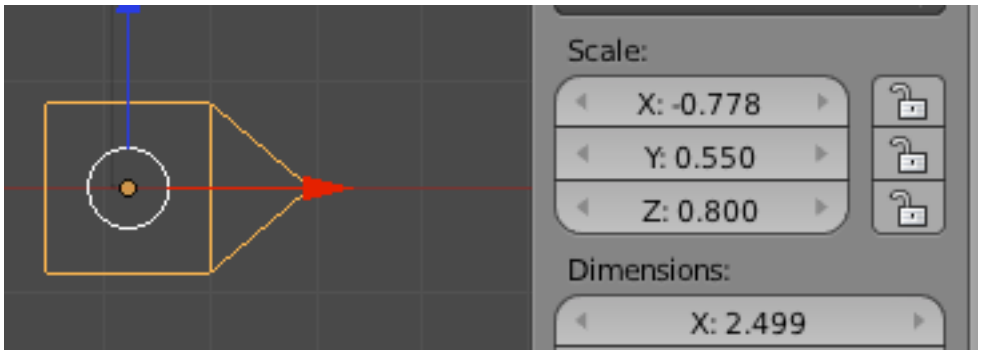


Use the 3D Manipulator Widgets to move the second cube into position (centered on the first) cube as shown below.

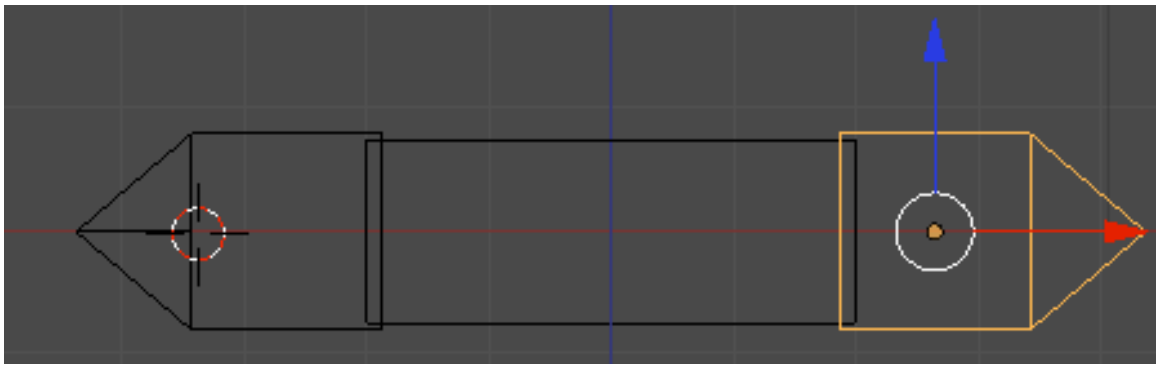


We want to duplicate this cube and place it on the other side. With the cube selected, press SHIFT-D (Duplicate), then left click. This will create a duplicate cube object placed directly on top of the original. Use the widget to move the duplicate object to the right as shown below.

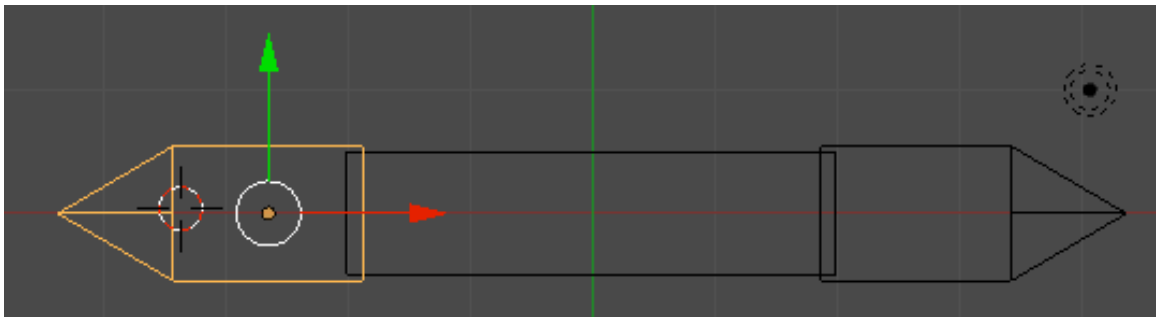
Change the X scale of the duplicated object from .778 to -.778 This will turn the object around so that it is a mirror of the original.



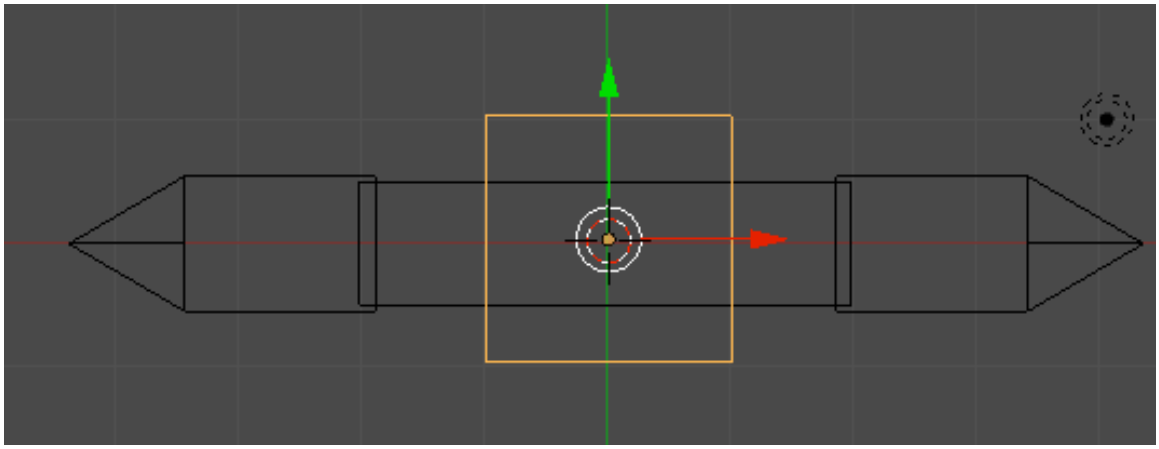
Move this cube to the left so that it overlaps a bit with the original cube as shown below.



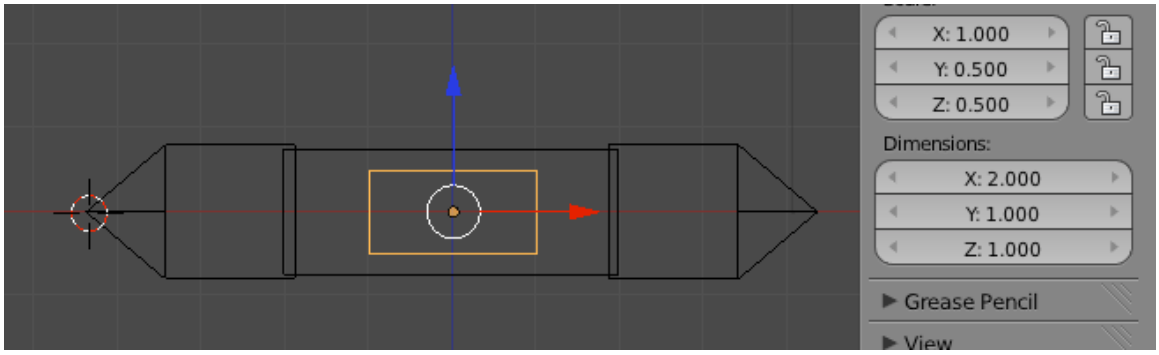
Switch to top view. Move the 2 outside cube object so they are centered on the middle cube object in top view as shown below.



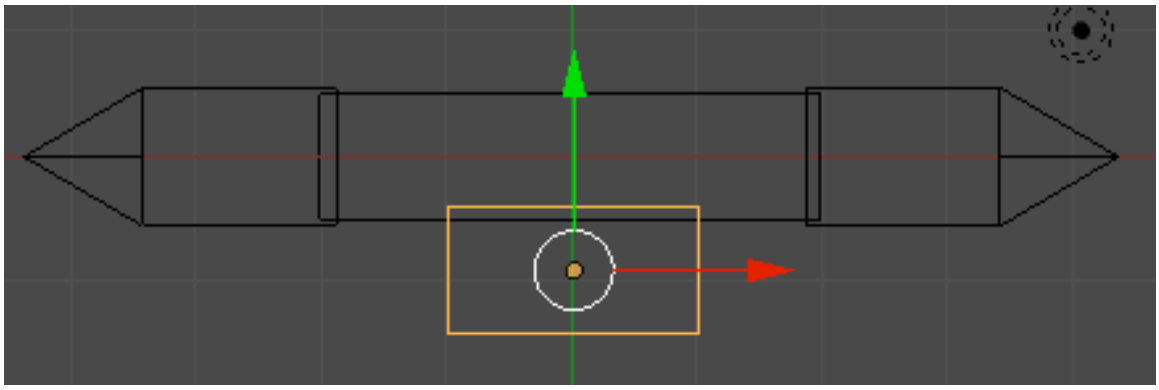
Press the AKEY to deselect any objects. While still in top view, place your 3D cursor in the center of the model. Press SHIFT-A and add another cube object as shown below.



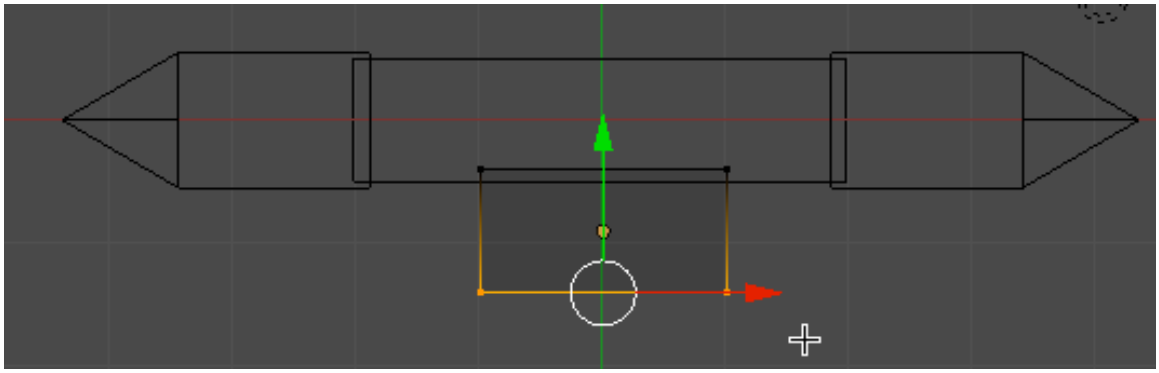
In the properties panel, set the Dimension X to 2, Dimension Y to 1 and Dimension Z to 1



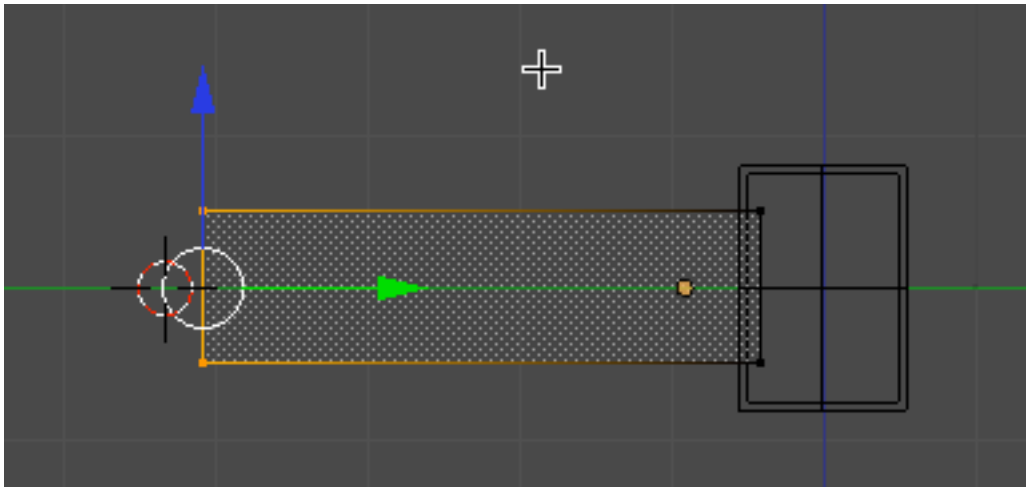
Switch to top view (NUMPAD-7). Move the cube to the edge of the center cube as shown below.



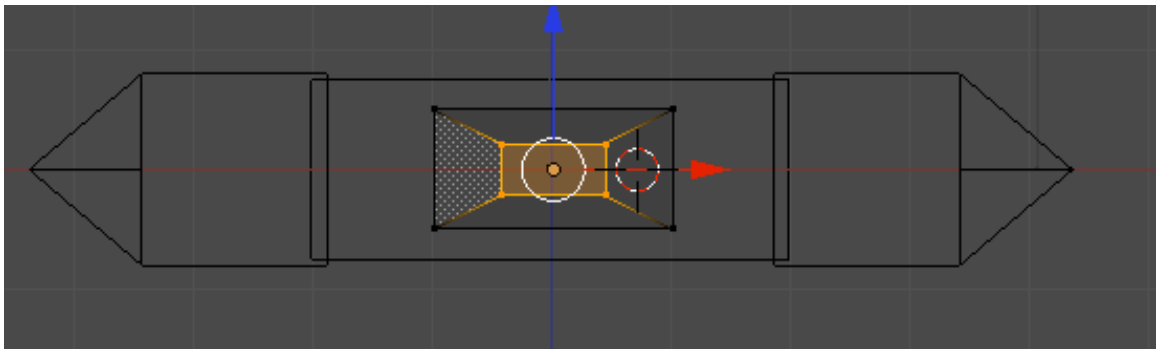
TAB into edit mode. Press the AKEY to deselect any vertices. Press the BKEY (Box Select) and box select the sets of vertices at the bottom as shown below.



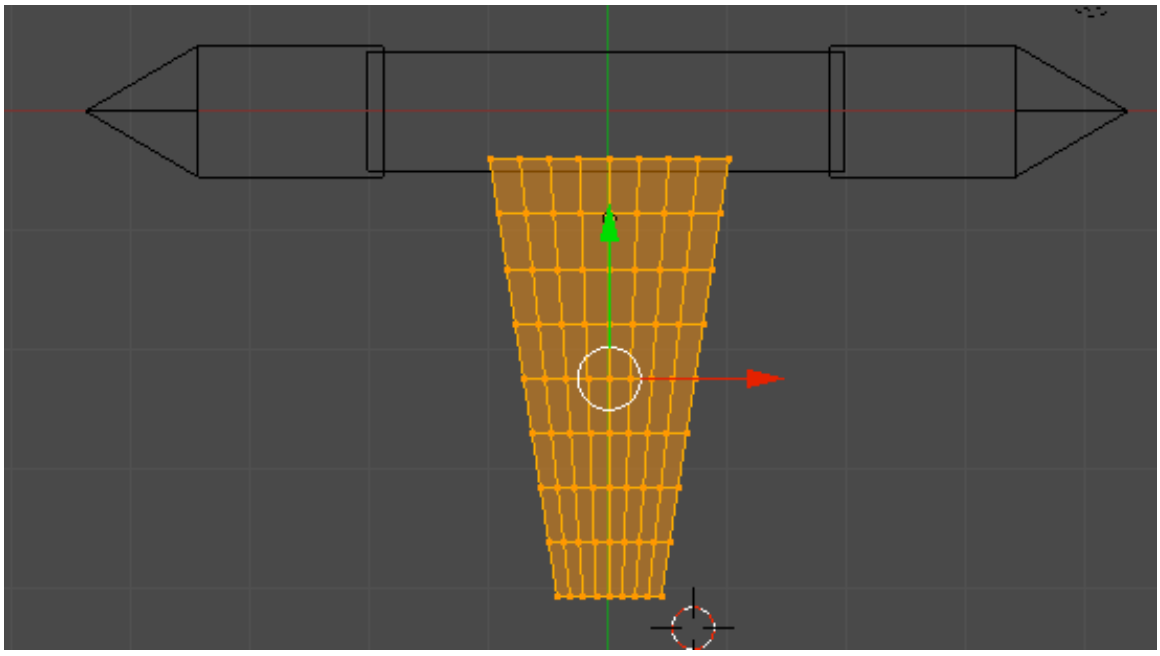
Switch to side view (NUMPAD-3). Use the 3D Manipulator widget to move these vertices to the left as shown below (green arrow)



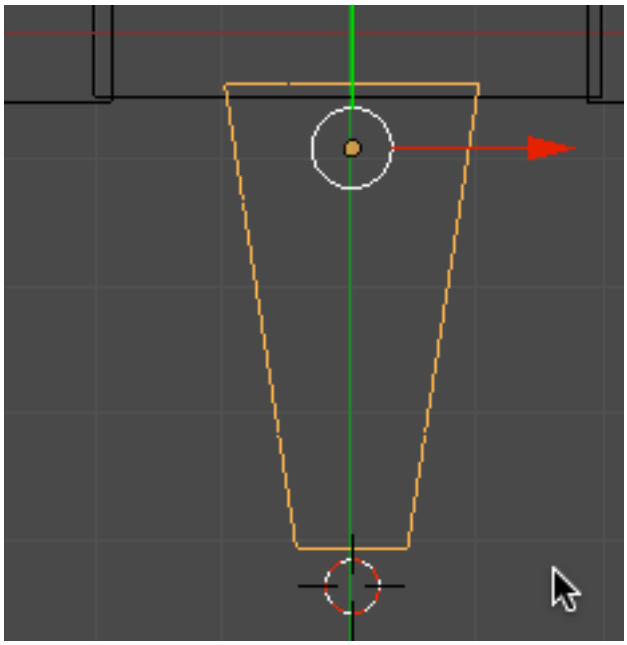
Switch to Front View (NUMPAD-1). Press the SKEY and scale down the vertices as shown below.



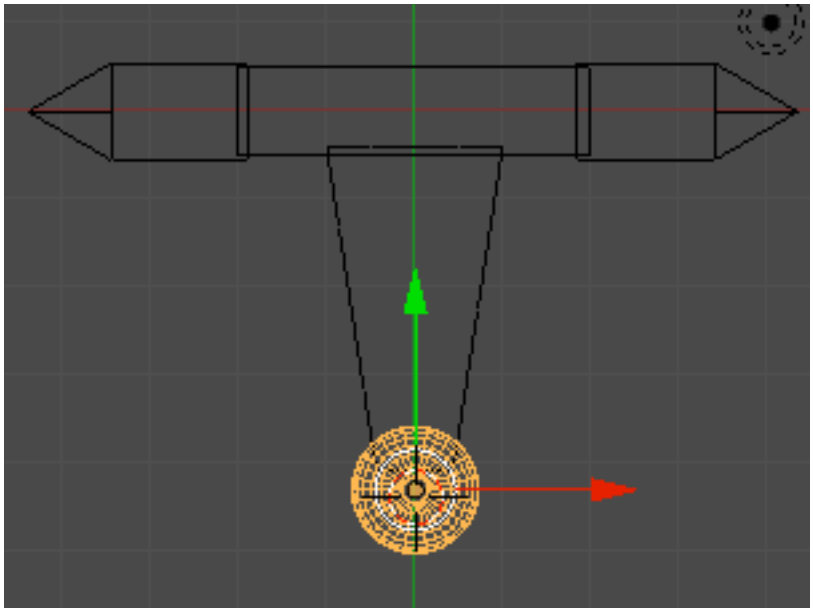
Press the AKEY twice to **select all of the vertices**. Switch to top view (Numpad-7). Press the Subdivide button in the left tools panel Three times.



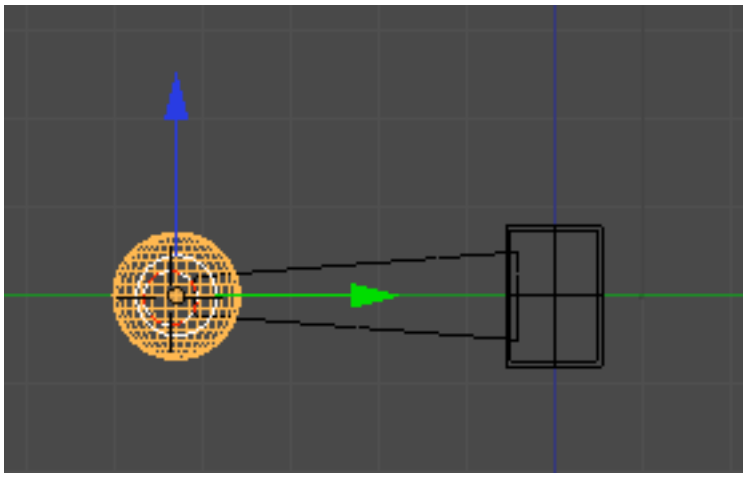
TAB out of Edit Mode. Place your 3D cursor at the end of the hilt as shown.



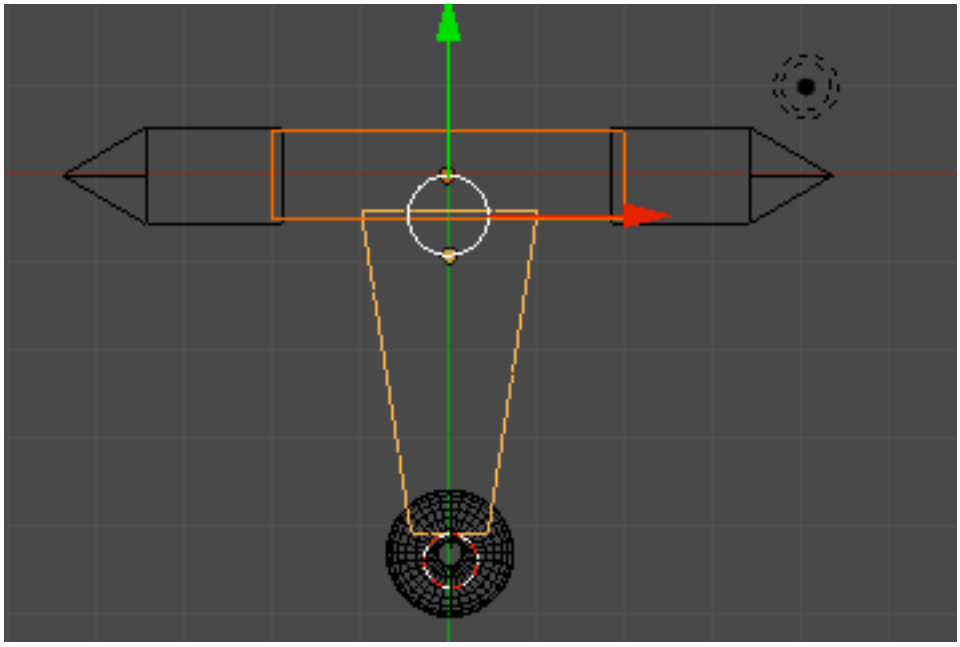
Press SHIFT-A and add a UV Sphere. Press the SKEY and scale it down and position it as shown.



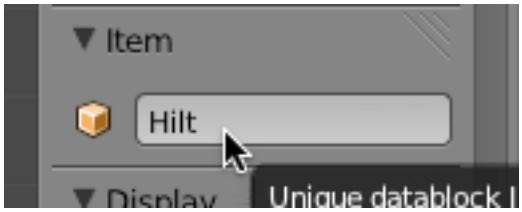
Switch to Side View (NUMPAD-3). Move the sphere up to the hilt as shown (if needed).



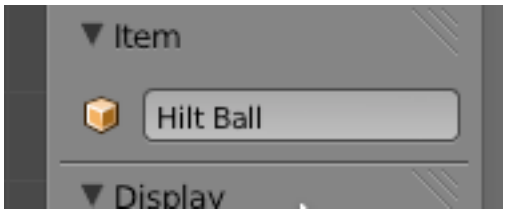
TAB out of Edit Mode. Deselect the object. Switch to top view (NUMPAD-7). Select the handle and the crosspiece as shown.



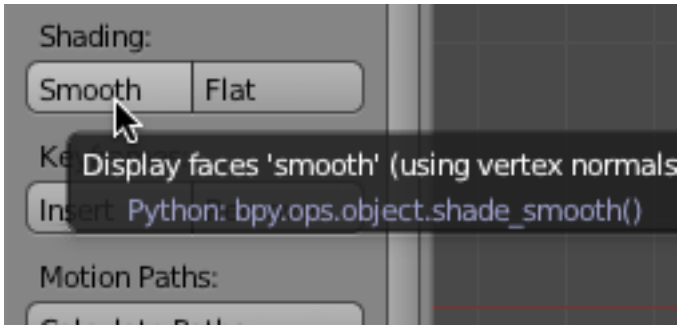
Press CTRL-J. This will join the two objects together. In the properties panel Item name this object “Hilt”.



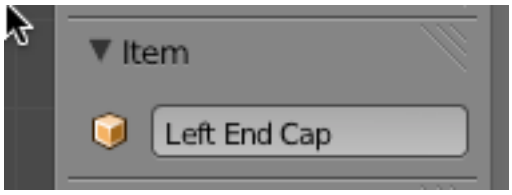
Deselect the hilt. Select the UV Sphere. Name this item Hilt Ball.



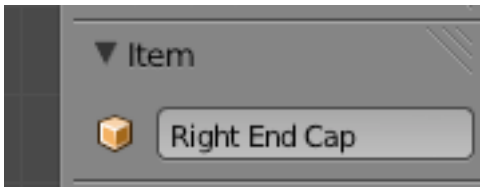
With the Hilt Ball object still selected, press the Smooth button I the left tools panel. This will smooth out the UV Sphere's facets when we view it in solid sharing mode.



Select the left pointed cube. Name this object Left End Cap.



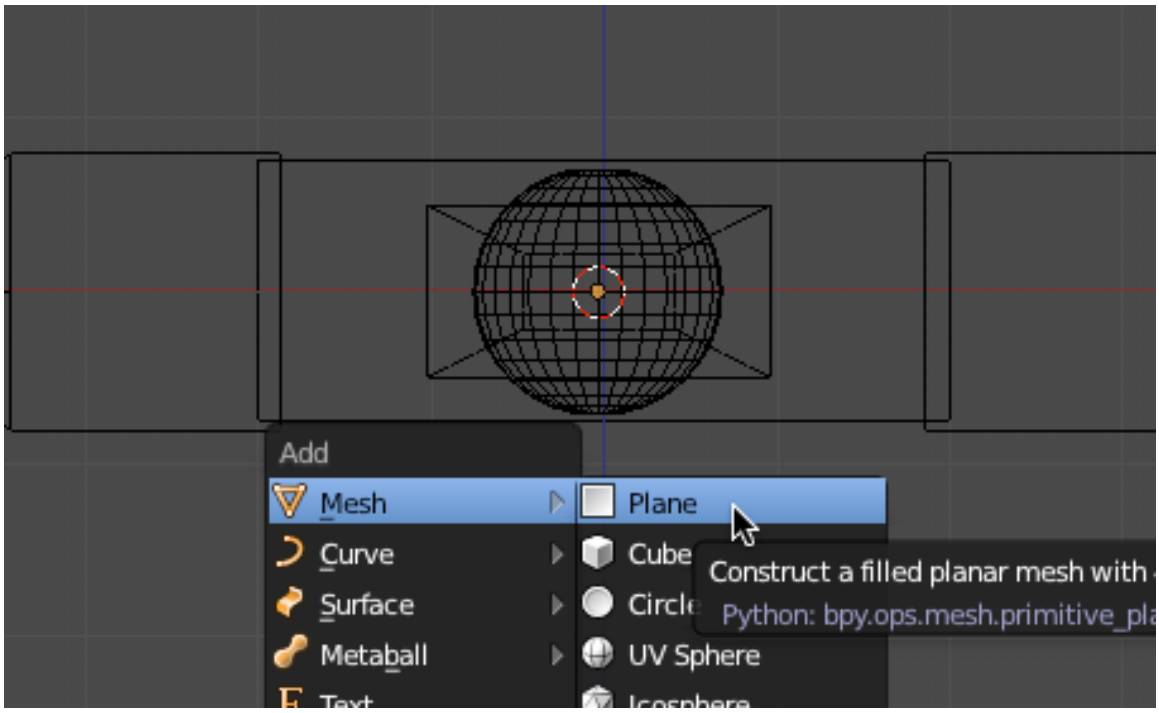
Select the right pointed cube. Name this object Right End Cap.



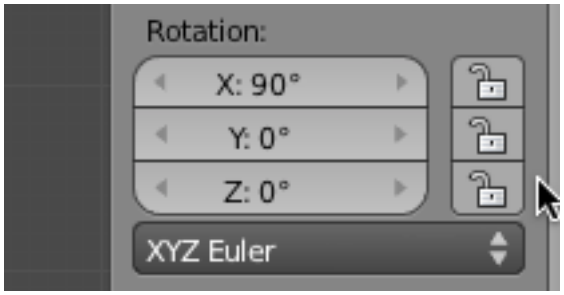
Deselect any onbjects.

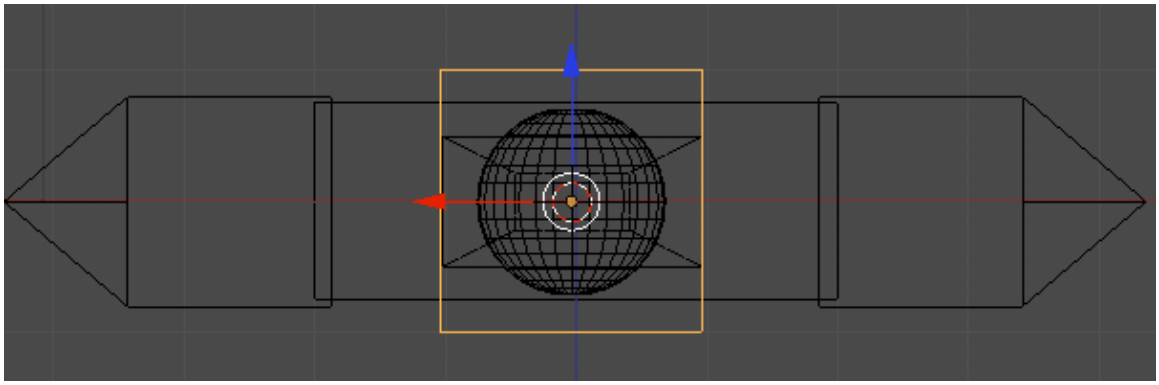
Save your Blend File (CTRL-W)

Switch to Rear View (CRTL-NUMPAD-1). Place your 3D cursor in the center of the Hilt object and press SHIFT-! And add a Plane object.

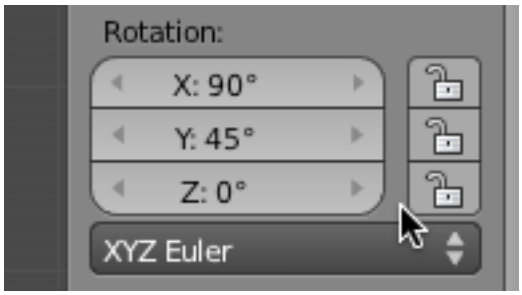


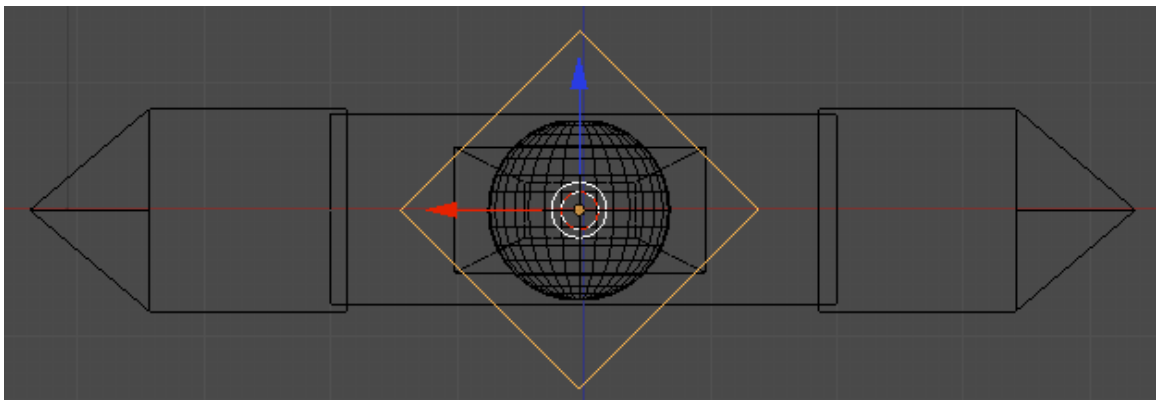
In the properties panel, set the Rotation X to 90.



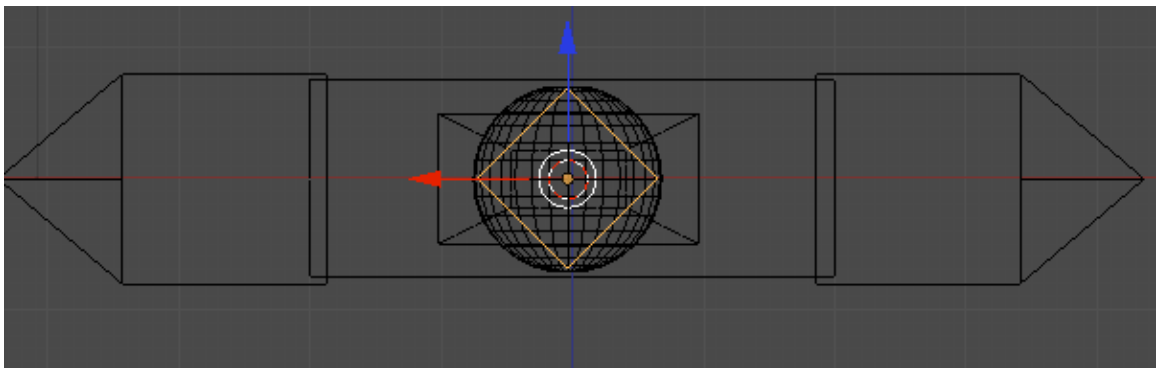


Now set the Rotation Y to 45.

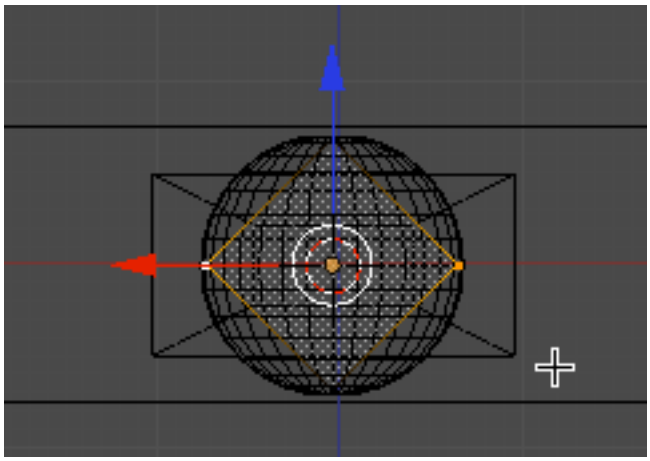




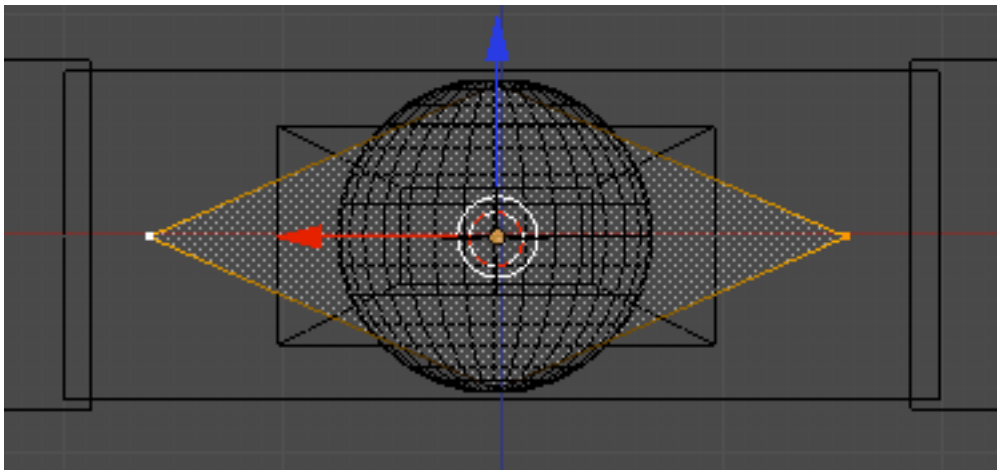
Press the SKEY (Scale) and scale down the plane object so it fits inside the confines of the Hilt as shown below.



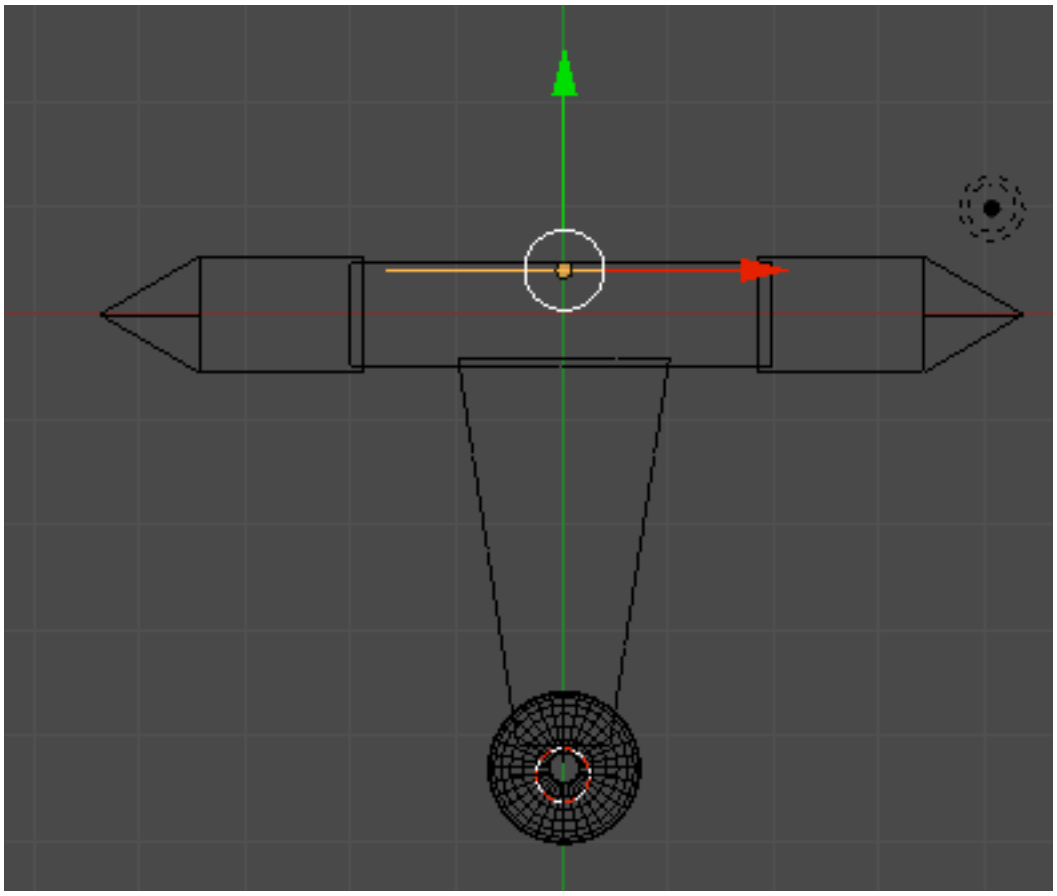
TAB into Edit Mode. Deselect the vertices. Now select the vertex on the right and add to the selection the vertex on the right.



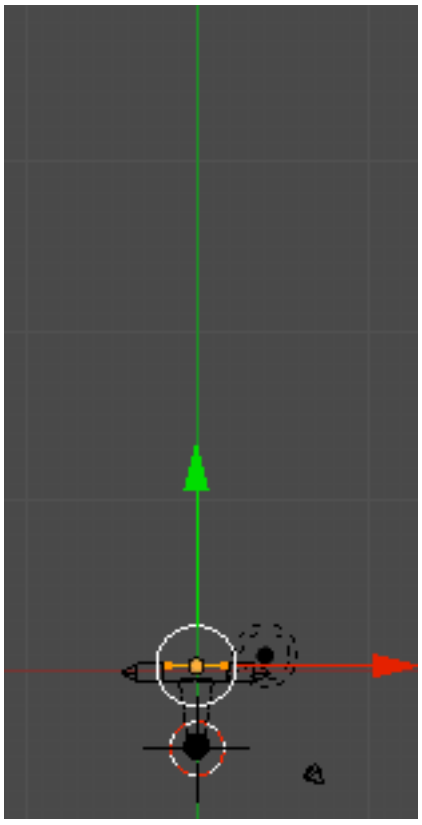
Press the SKEY (Scale) followed by the XKEY and scale the vertices our along the X axis as shown below.



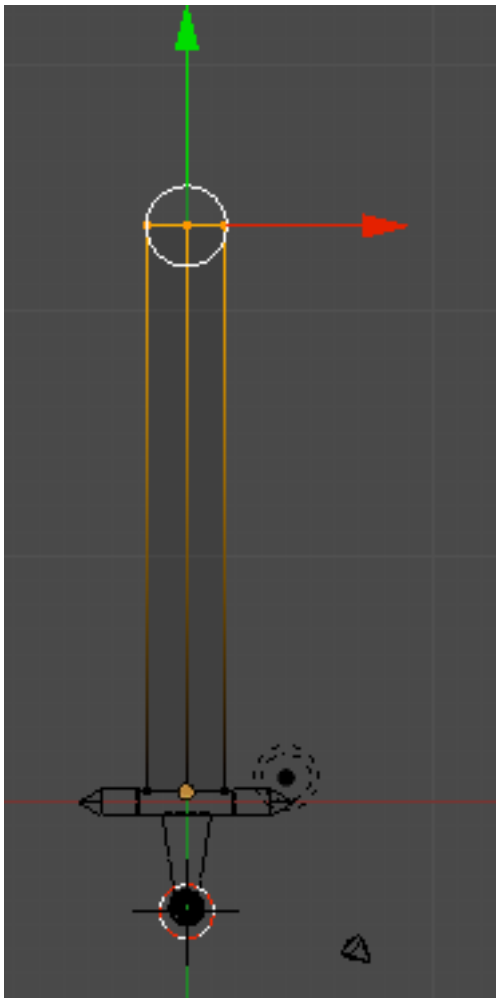
Deselect the vertices and TAB back to Object Mode. Go to top view (NUMPAD-7). Move the plane object up and place it just inside the hilt as shown below.



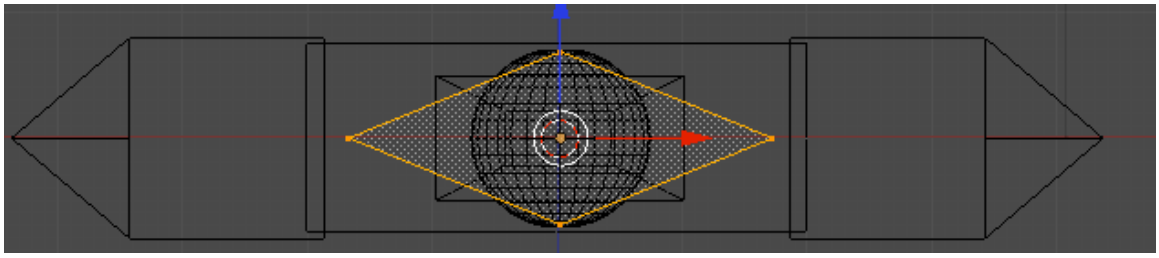
TAB into Edit Mode. Press the AKEY so all of the vertices of the plane object are selected. Zoom out a bit.



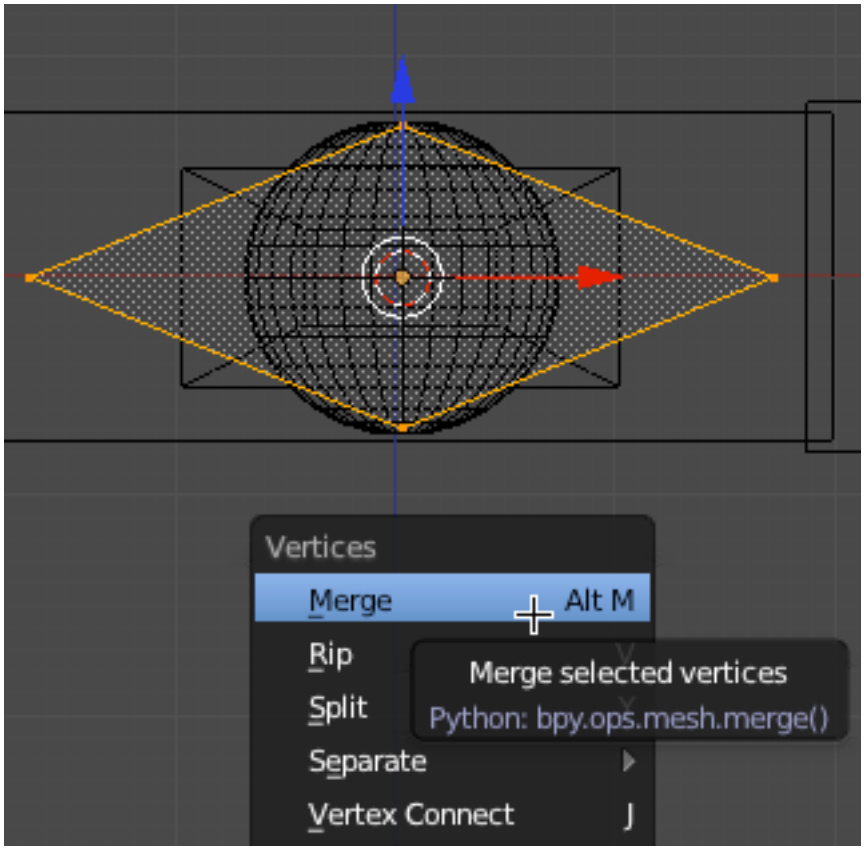
Press the EKEY (Extrude) followed by the YKEY and extrude the vertices up along the Y axis as shown below.



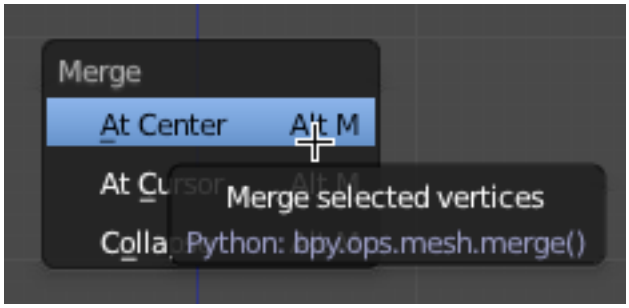
Go to front view (NUMPAD-1) and zoom in a bit.



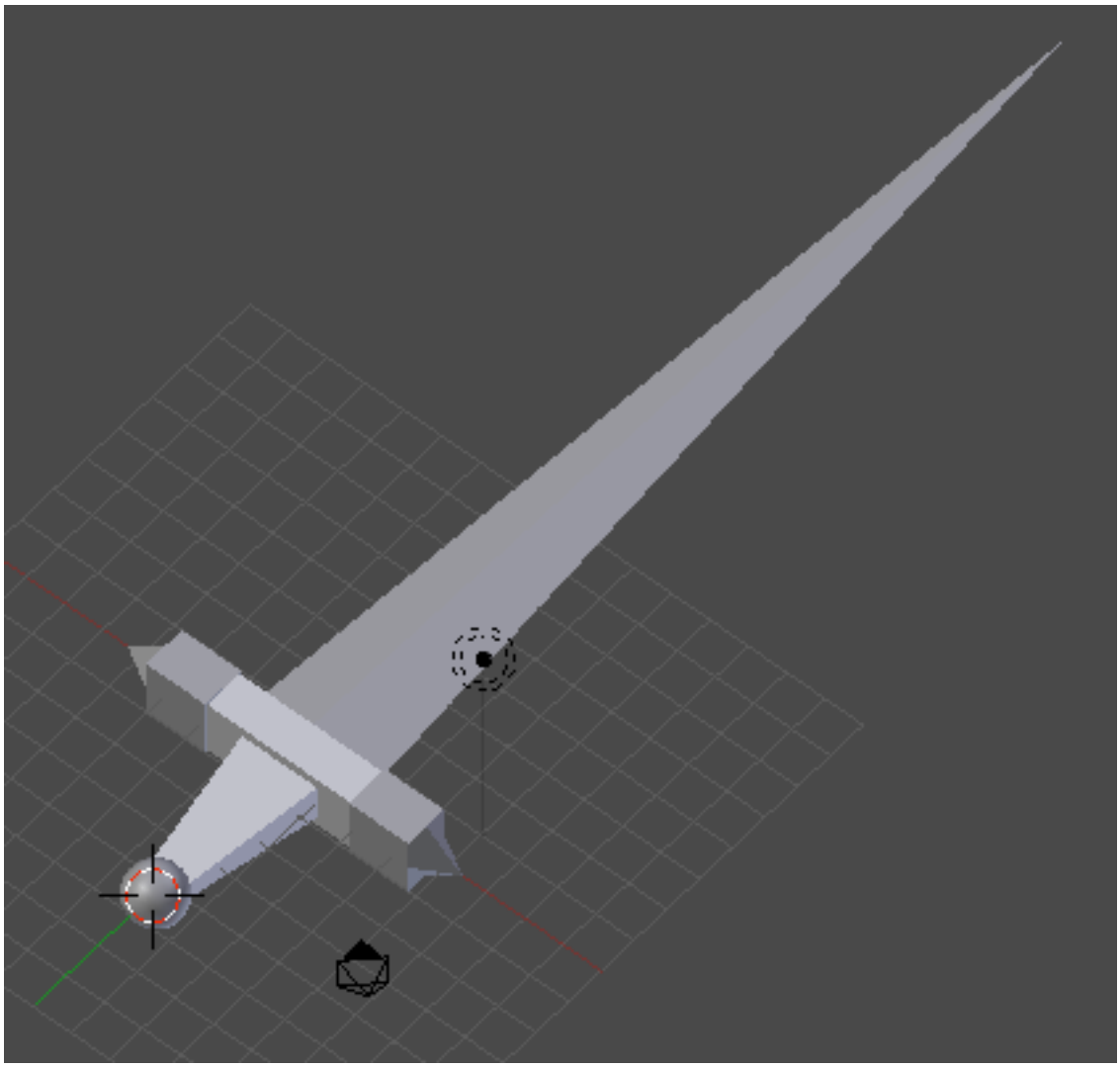
Press CTRL-V (Vertex Menu) and select Merge.



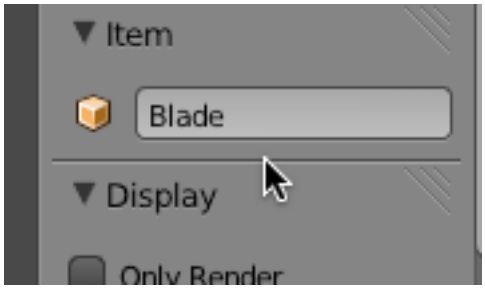
Then choose Merge at Center



Deselect the vertices. TAB out of Edit mode. Press the ZKEY to go into solid shading mode. Rotate your viewport to see the sword model more dimensionally.



Select the extruded object and name it Blade.



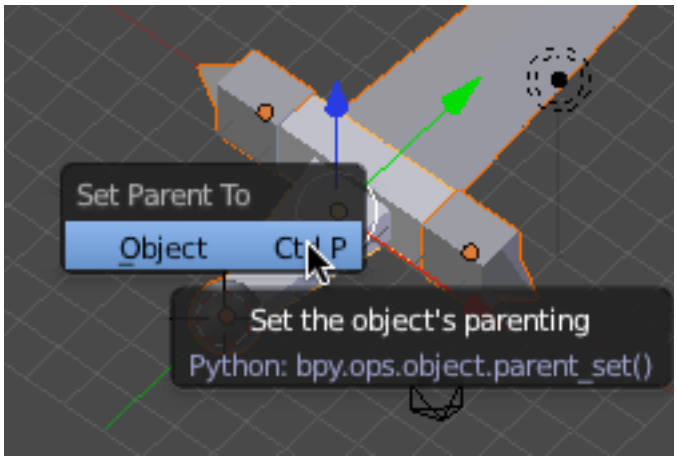
Save your Blend file.

Parenting:

Select the Right End Cap object. Hold Down your SHIFT Key and add the Left End Cap to the selection. Hold Down the SHIFT Key and add the Blade object to the selection.

Hold down the SHIFT Key and add the Hilt Ball object to the selection. Finally, hold down the SHIFT Key and add the Hilt object to the selection.

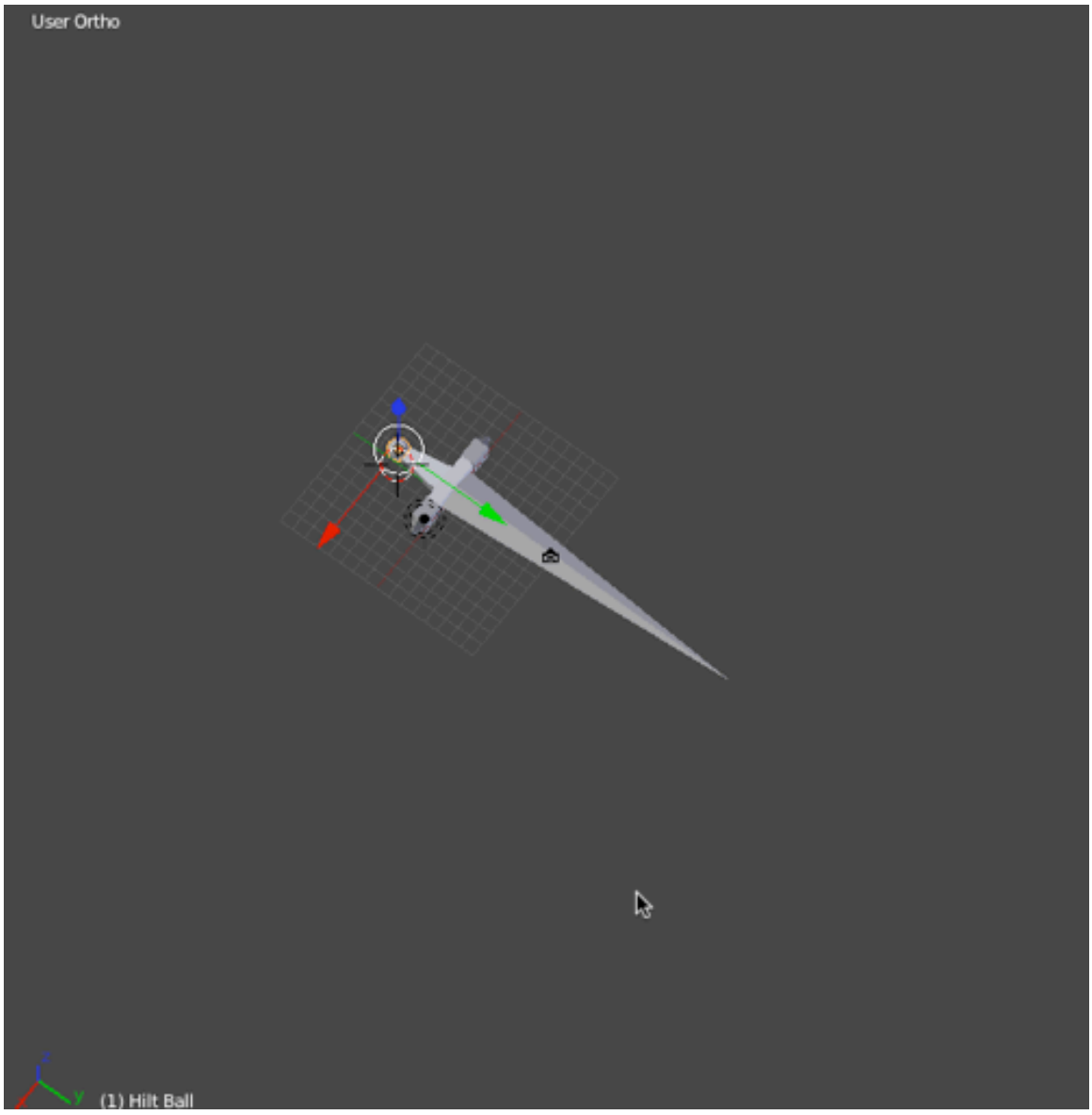
Press CTRL-P (Parent) then choose Object.



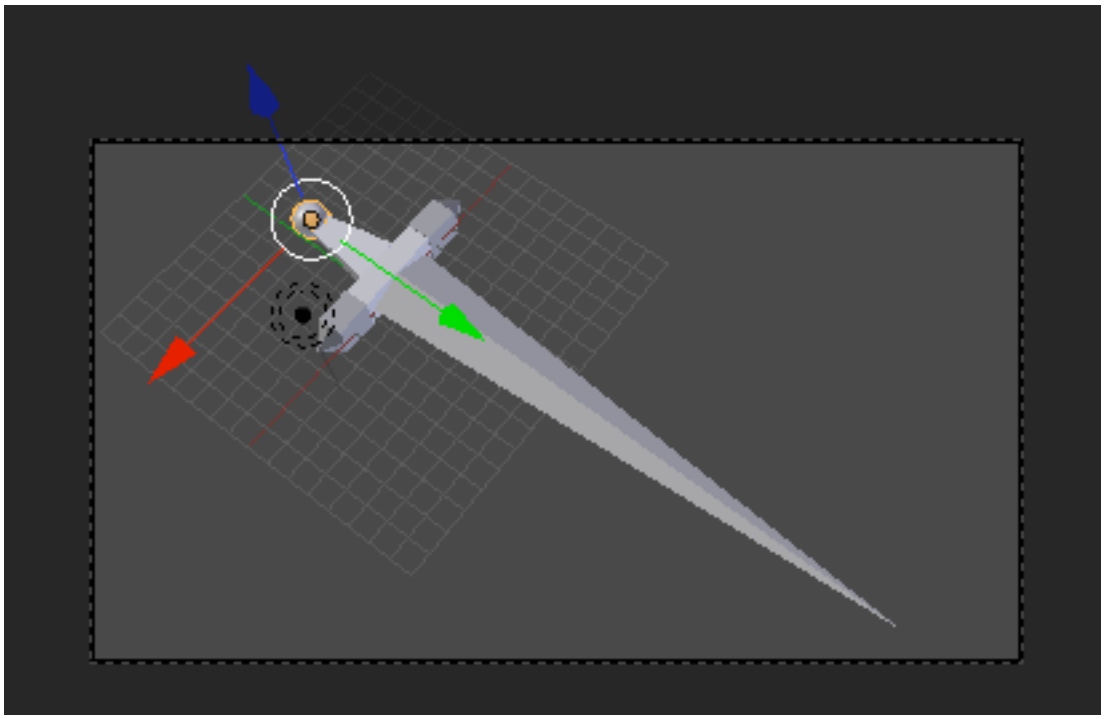
The parts of the sword are now all parented to the Hilt object. You can Move, Rotate or scale the Hilt object and the rest of the objects will follow.

Camera:

Adjust your view so that the Sword is centered dimensionally in the viewport as shown below

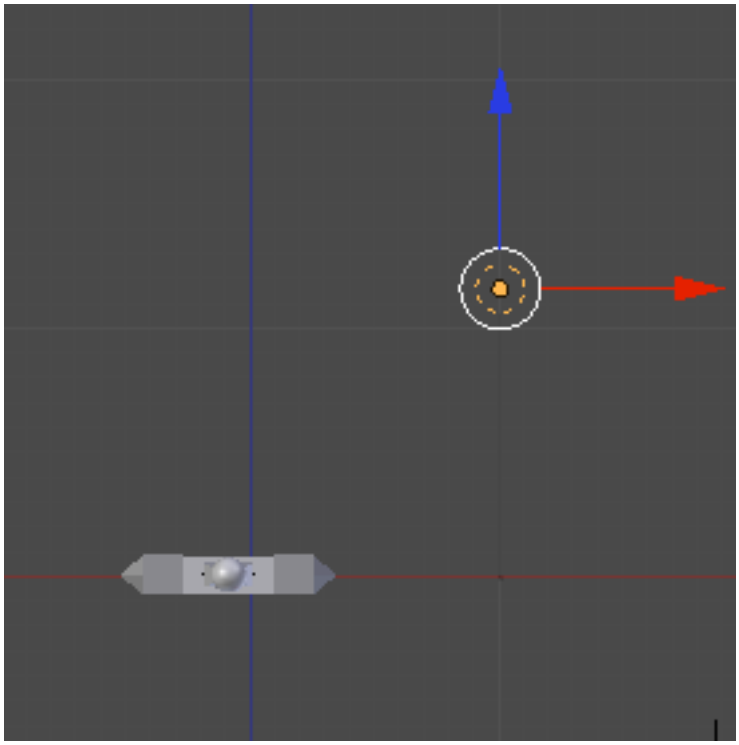


Press CTRL-ALT- 0 This will align the camera with the view. (NOTE: You may have to make many adjustment to get this centered and sized correctly. You can click your center scroll wheel button to get out of camera view, make adjustments, then CTRL-ALT-0 to re-align the camera.)

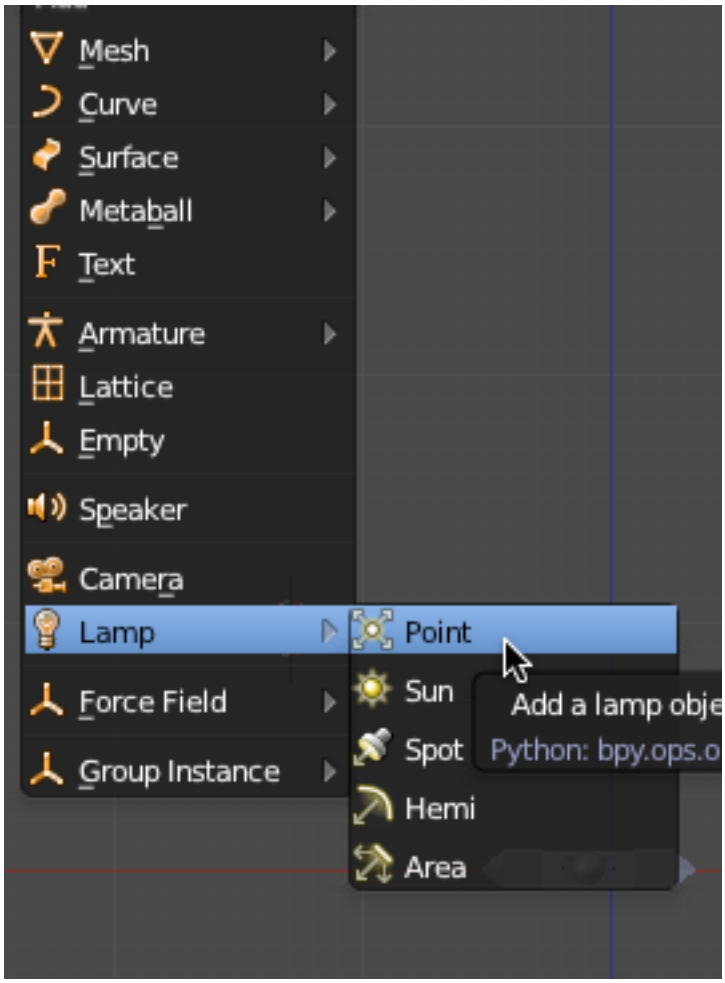


Lighting:

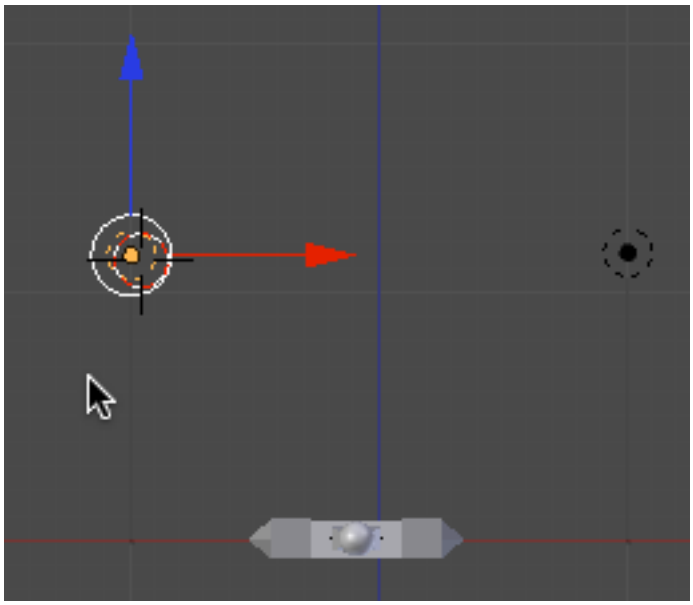
Go to front view (NUMPAD-1). Select the lamp object and raise it a little bit up along the Z axis as shown below.



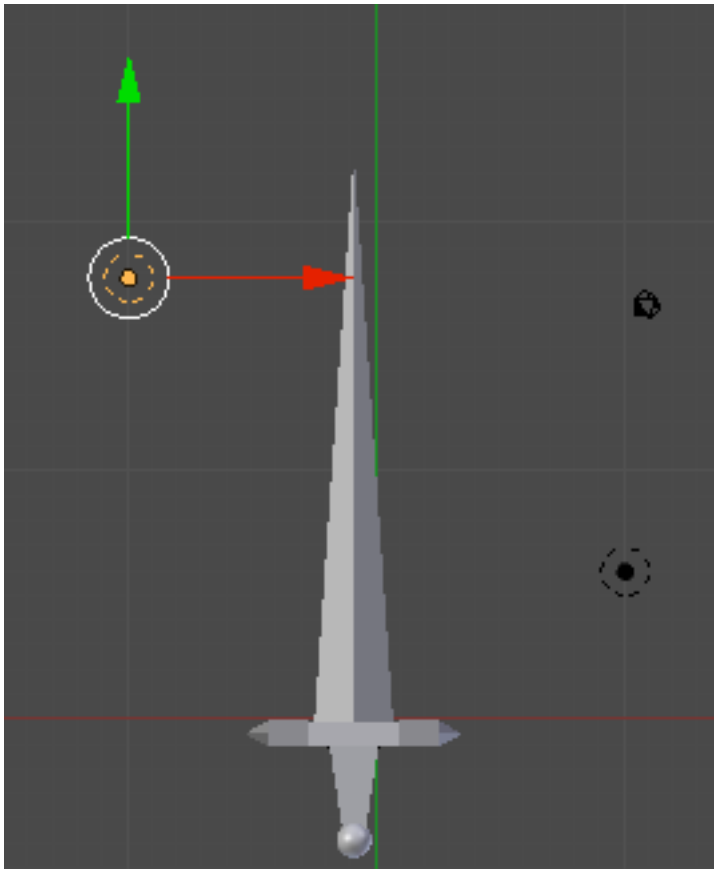
Place your 3D Cursor on the other side of the sword and press SHIFT-A and add another point lamp.



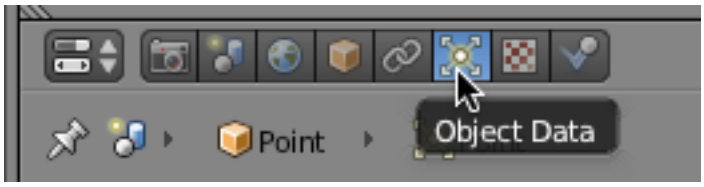
In front view, position the new point lamp as shown below.



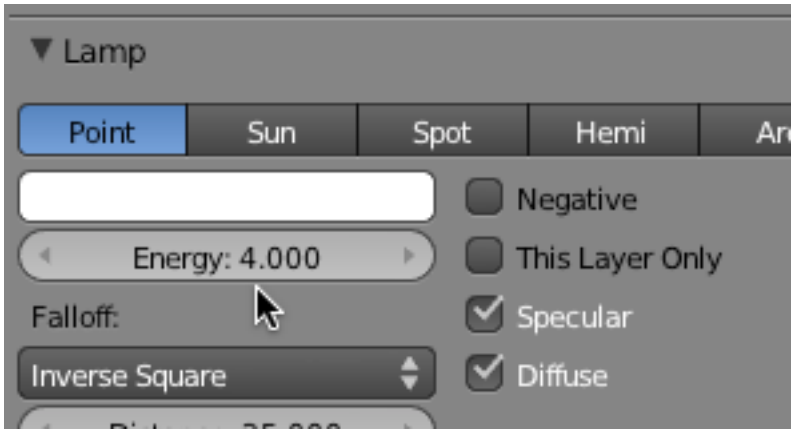
Go to top view and position the lams as shown below.



Select the FIRST point lamp. Go to the Object Data Editor.



In the Lamp panel set the energy for this lamp to 4



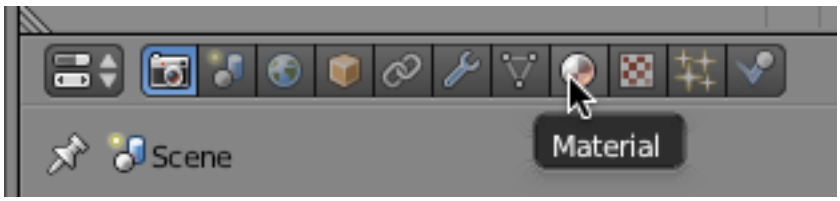
Deselect the lamp object. Save your Blend file.

Materials:

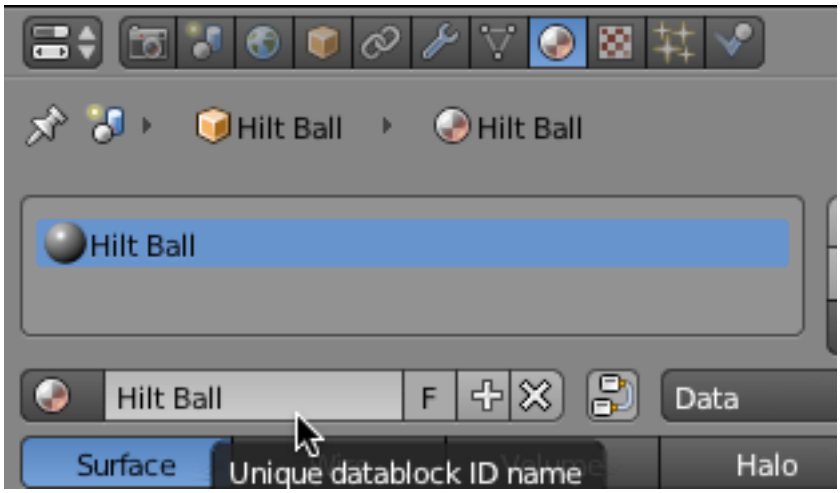
We will now add some materials to the Sword.
We will be using 3 image files for textures (goldfoil.png, metalshavings.jpg and steelplate.jpg). You can download these image files HERE.

Select the Hilt Ball object alone.

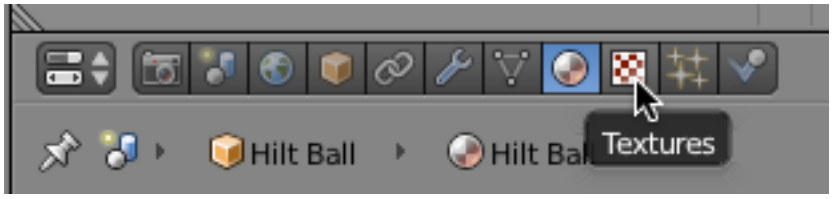
In the properties panel, click on the Materials Editor button.



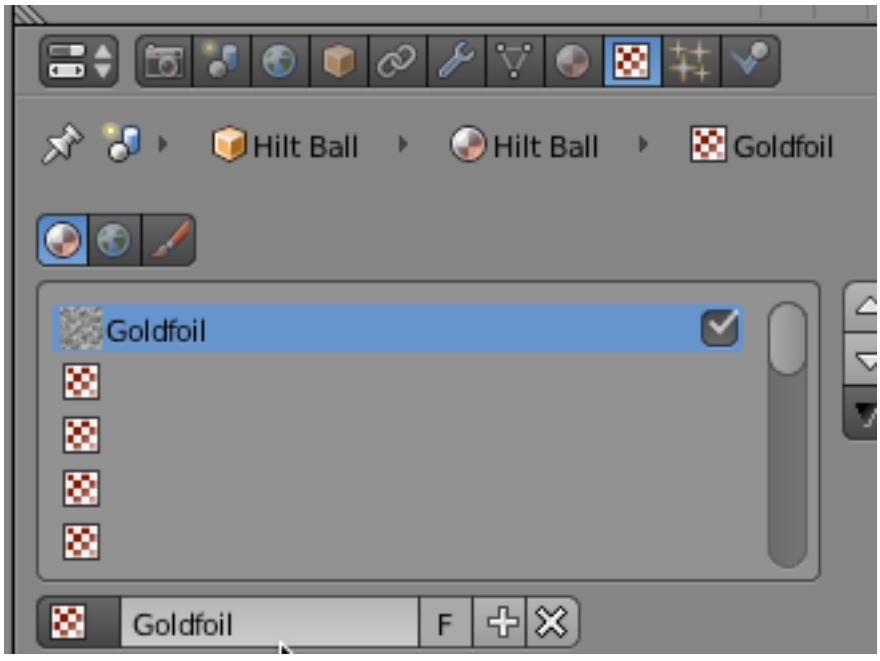
Press the New button. Name the material “Hilt Ball”.



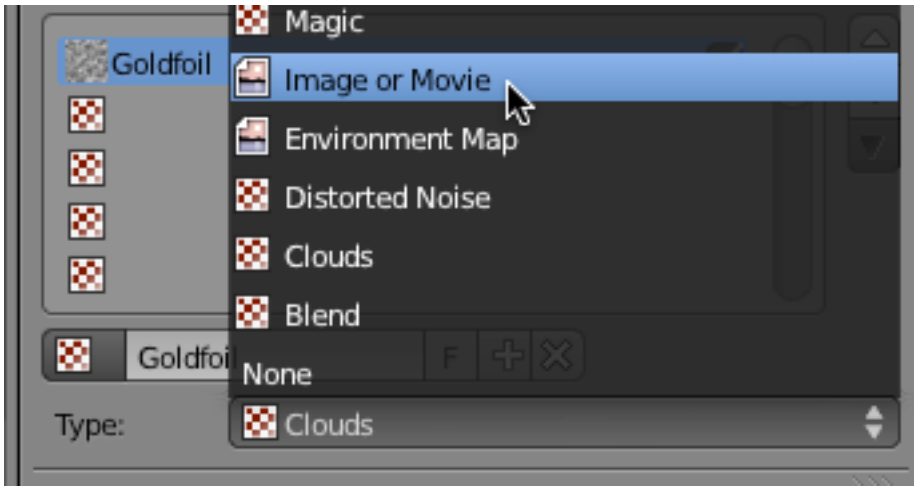
Click on the Texture Editor button.



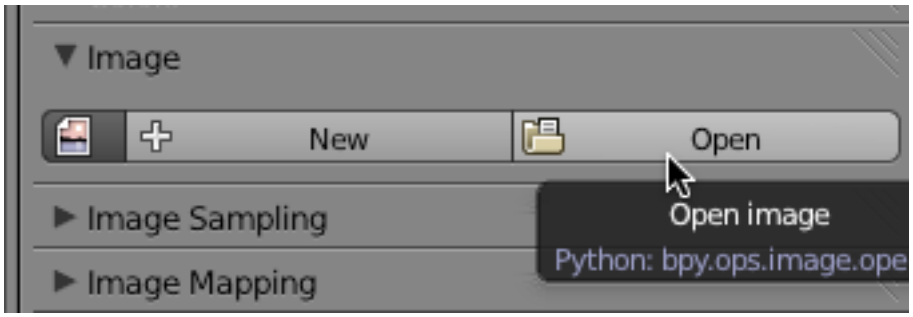
Click New. Name this texture “Goldfoil”



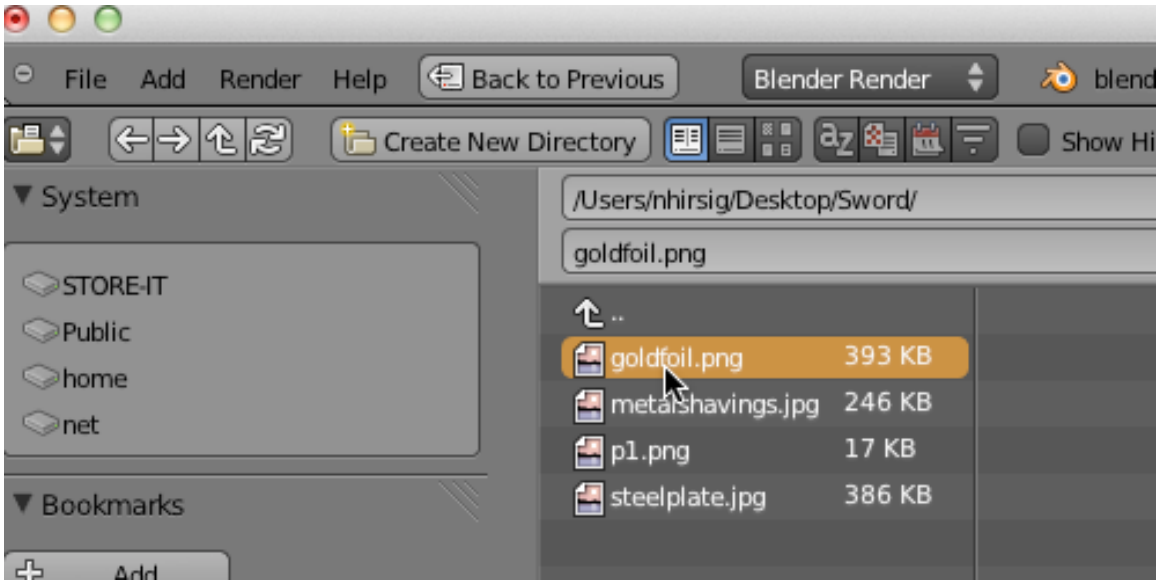
Change the Type to “Image or Movie”



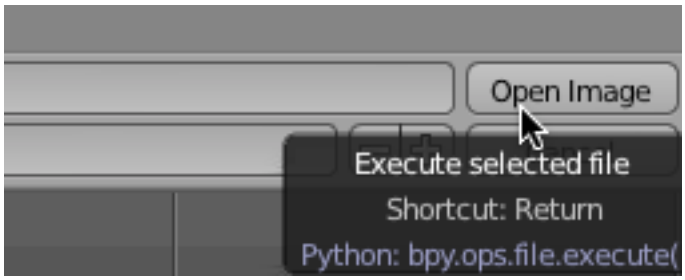
In the Image panel press Open



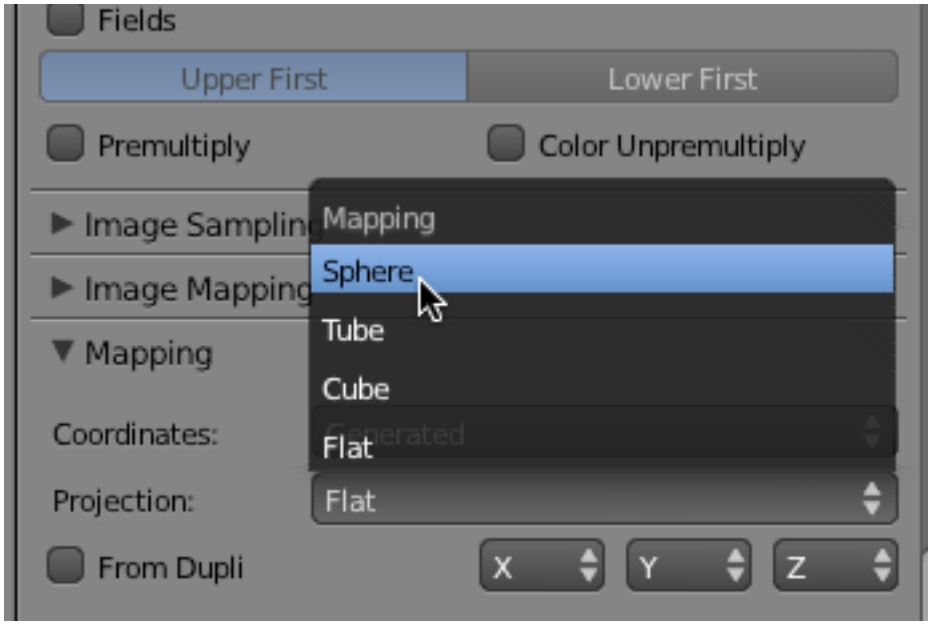
This opens Blender's file page. Locate the goildfoil.png file on your computer and select it.



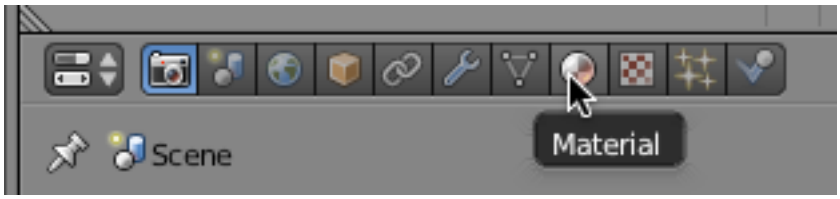
Press the "Open Image" button.



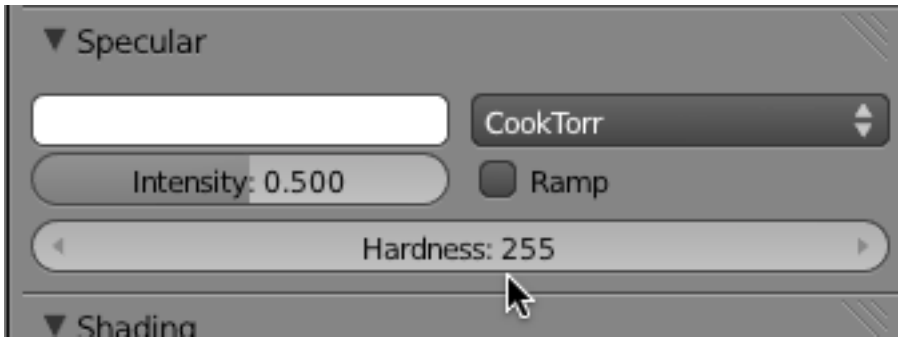
In the mapping panel, set the mapping to Sphere.



Go back to the Materials Editor.

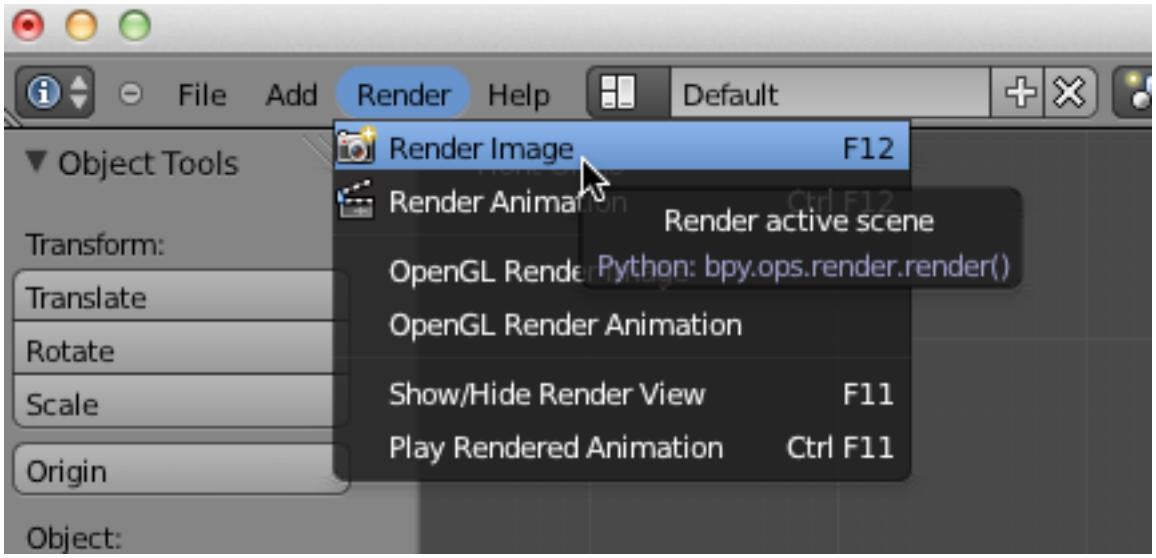


In the Specular Panel set the Hardness to 255. This will give the material a more metallic highlight.

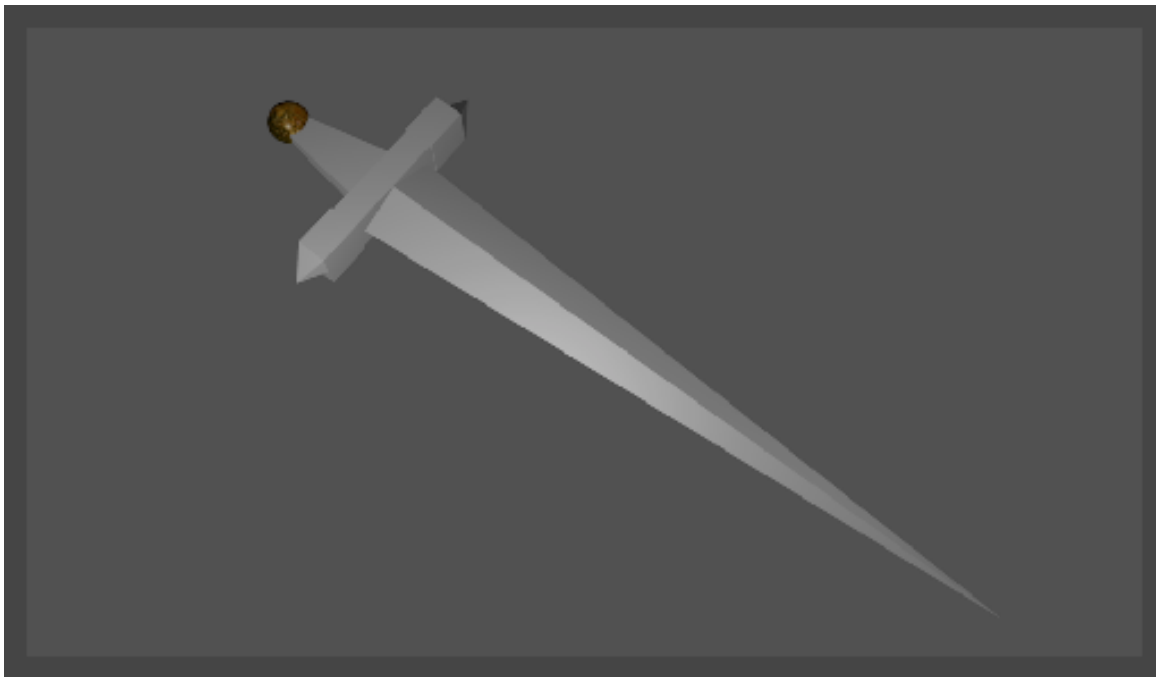


The material is now applied to the Hilt Ball object.

In the upper menu press Render / Render Image.

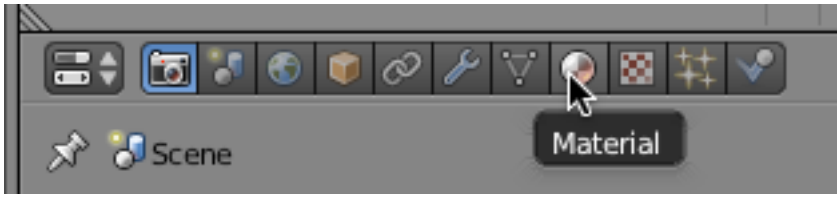


This will render the camera view in Blender's UV image editor.

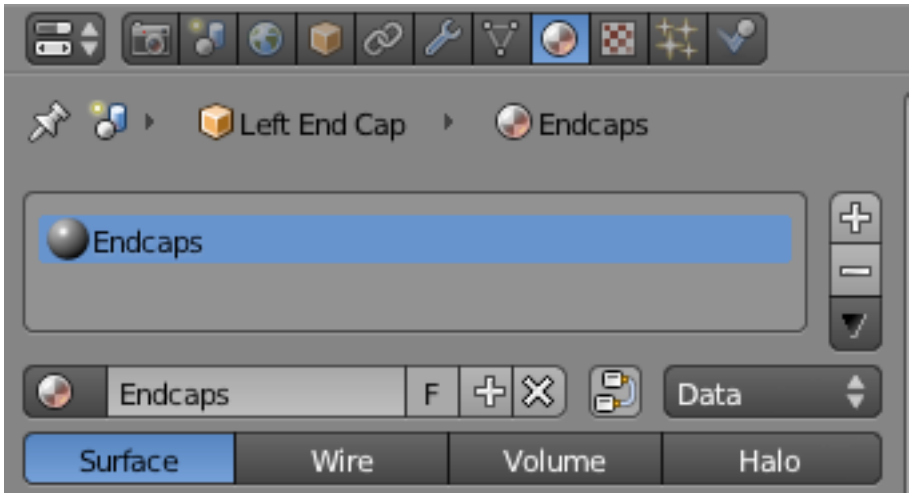


Press ESC (Escape) to return to the 3D viewport.

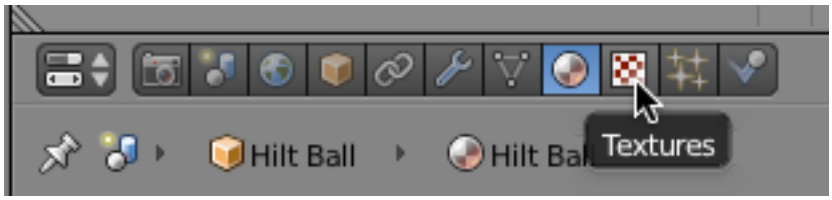
Select the Left End Cap object. We will add a variation of the Goldfoil Textured Material but since we will make changes from the last we must create a separate and new material. Go to the Materials Editor.



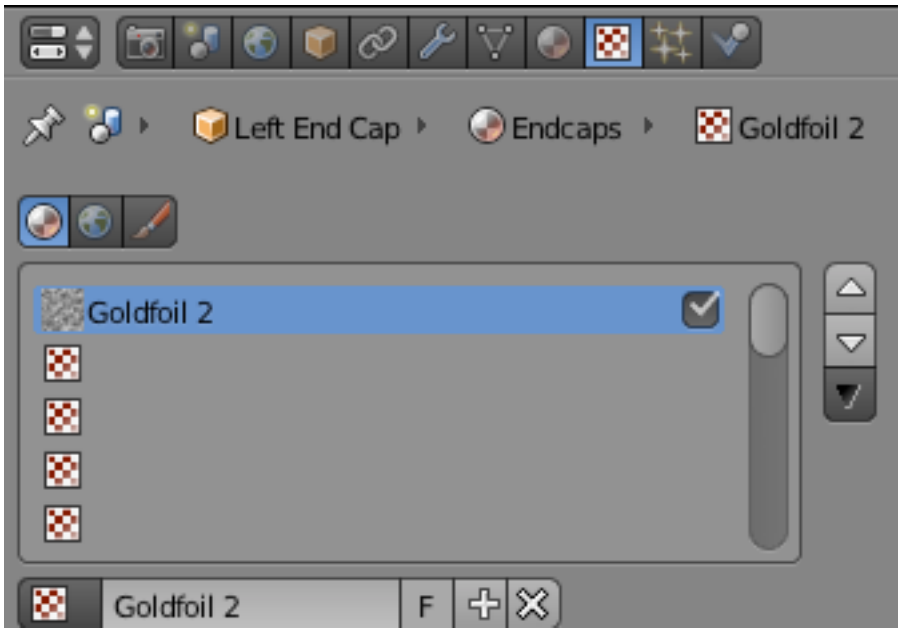
Click New. Name this Material “Endcaps”.



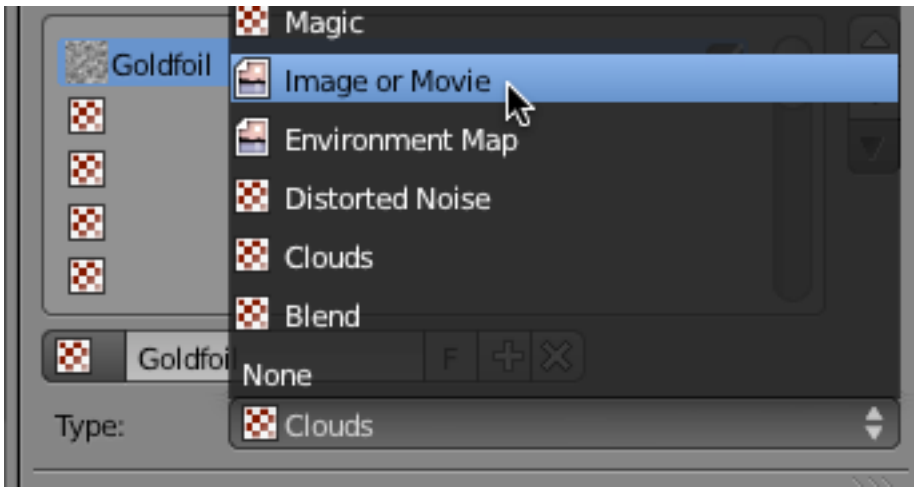
Go to the Texture Editor.



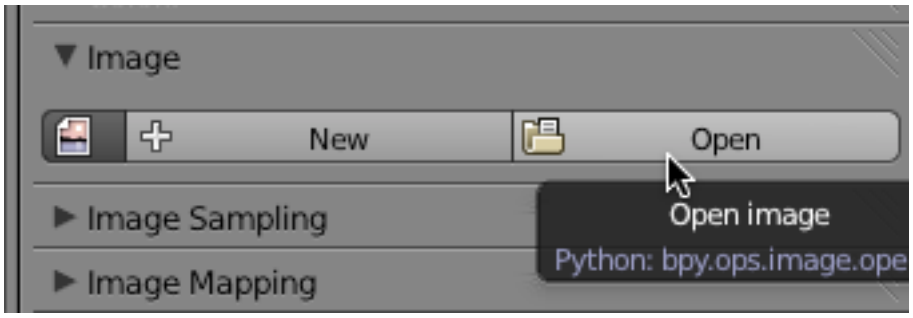
Click New. Name this texture Goldfoil 2



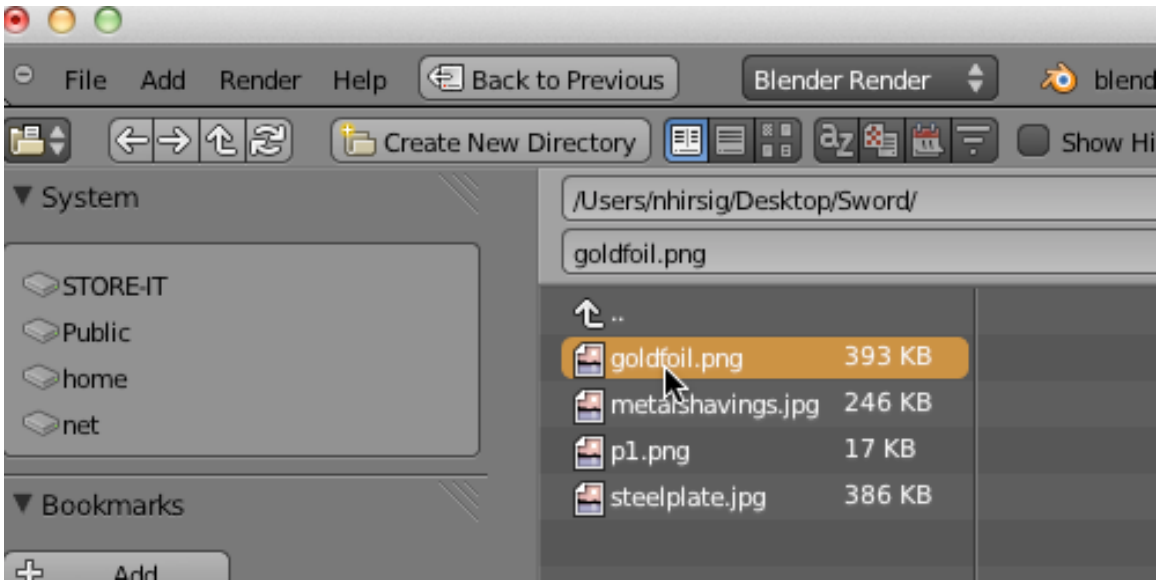
Change the Type to “Image or Movie”



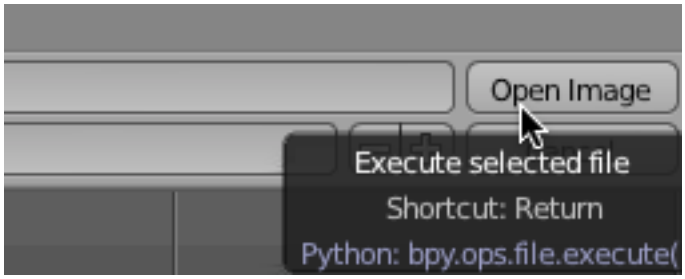
In the Image panel press Open



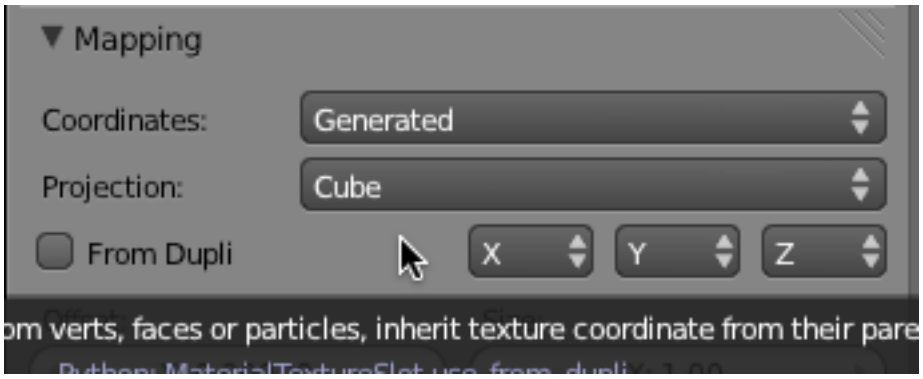
This opens Blender's file page. Locate the goildfoil.png file on your computer and select it.



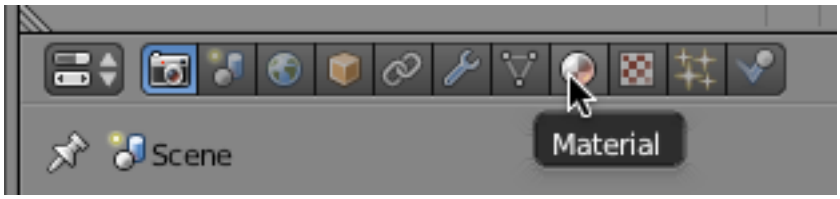
Press the "Open Image" button.



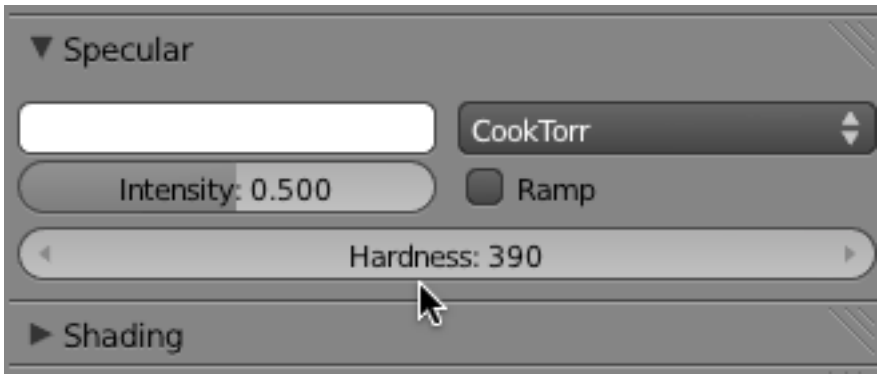
In the mapping panel, set the mapping to Cube.



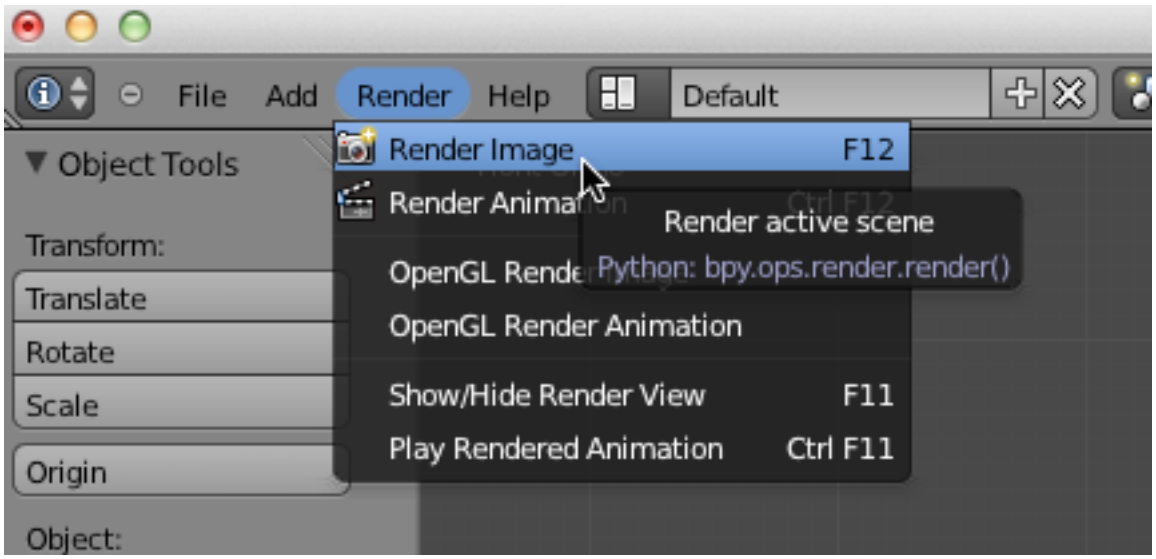
Go back to the Materials Editor.



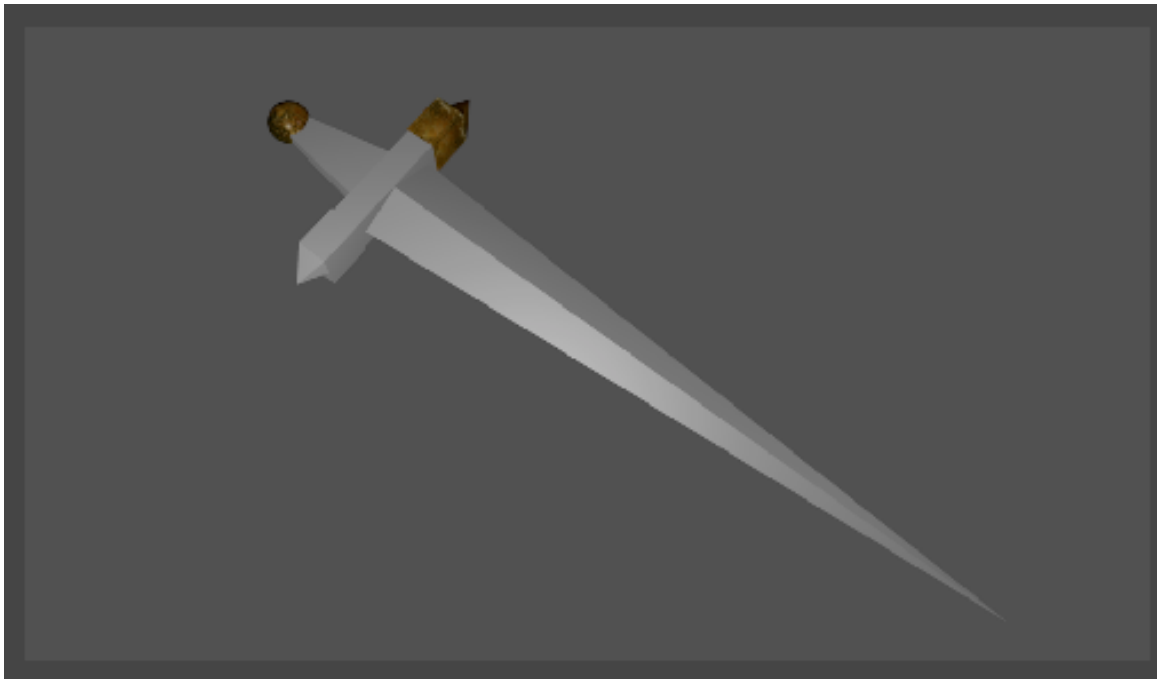
In the Specular Panel set the Hardness to 390.



In the upper menu press Render / Render Image.

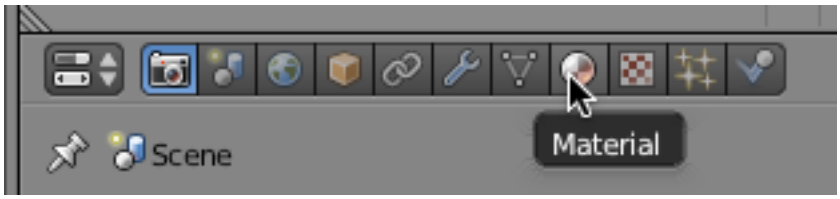


This will render the camera view in Blender's UV image editor.

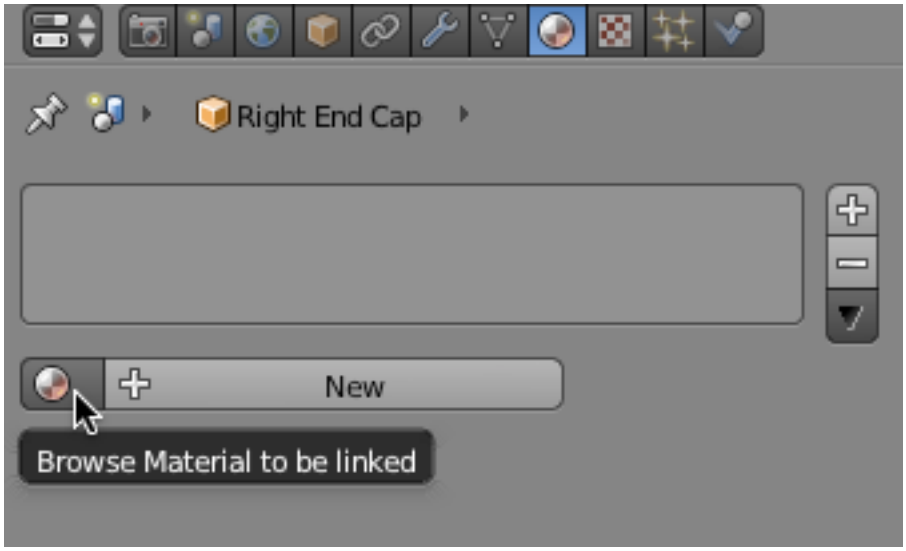


Save your Blend file.

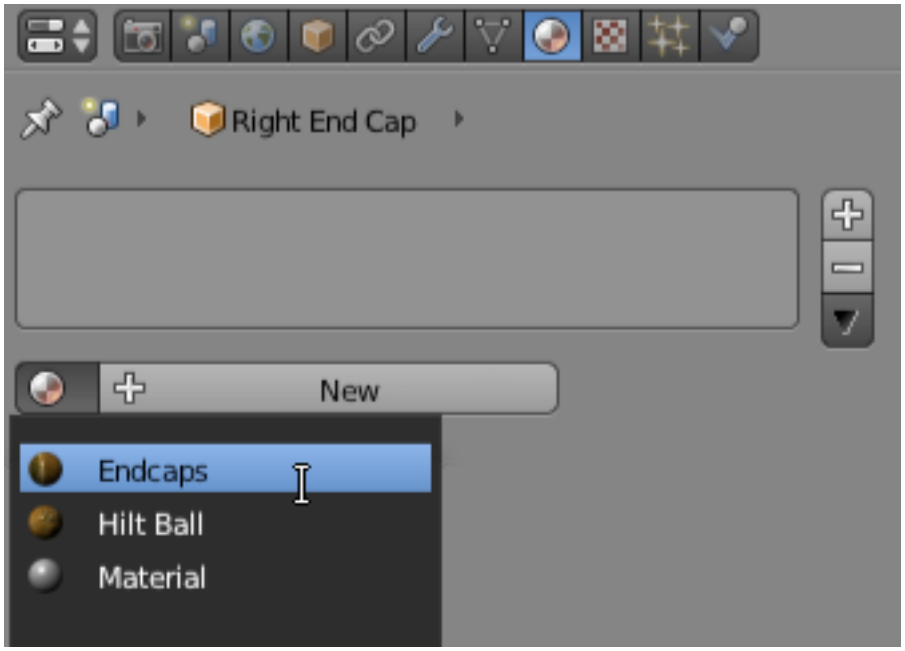
Select the Right End Cap object. We will use the same material (Endcaps) that we used for the Left End Cap object. Sine we already have made the material, we do not have to make it again; just associate the object with the existing material. Go to the Materials Editor.



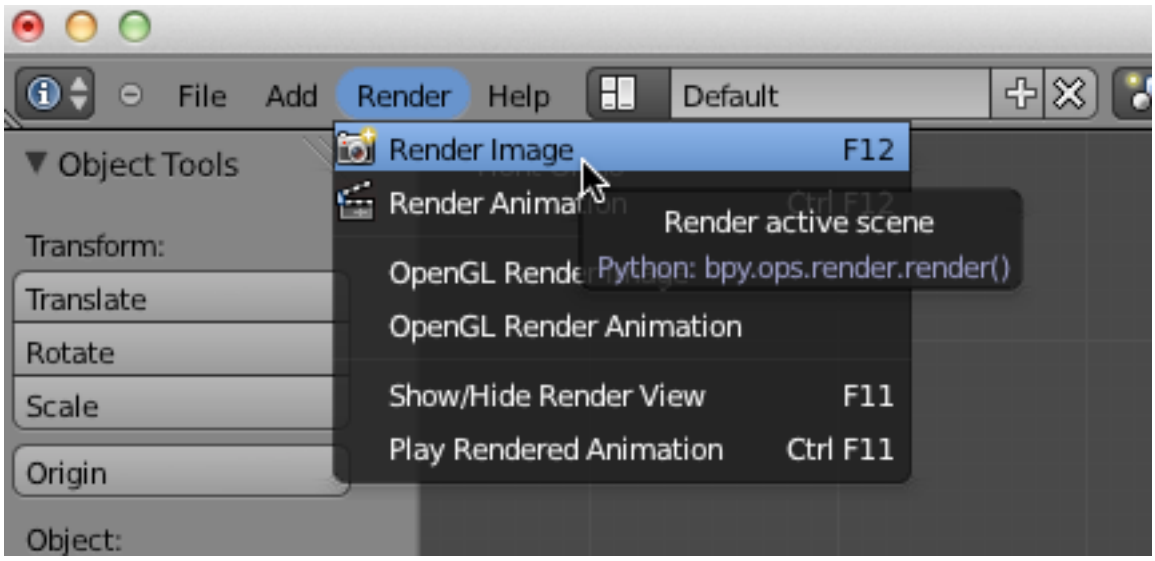
Click on the “Browse Material to be Linked” button.

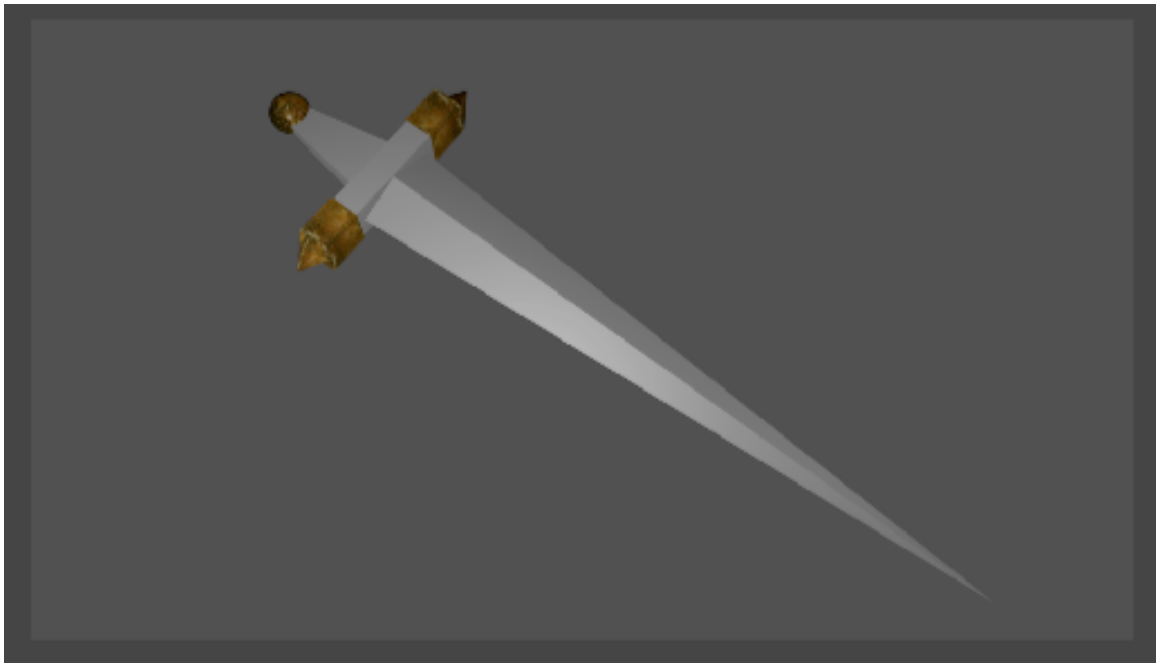


Select the Endcaps material.

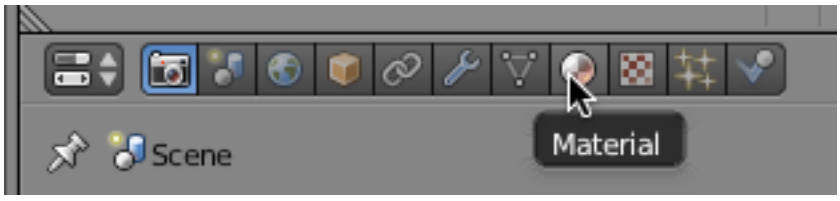


The Endcaps material is now linked to the Left End Cap object. In the upper menu press Render / Render Image.

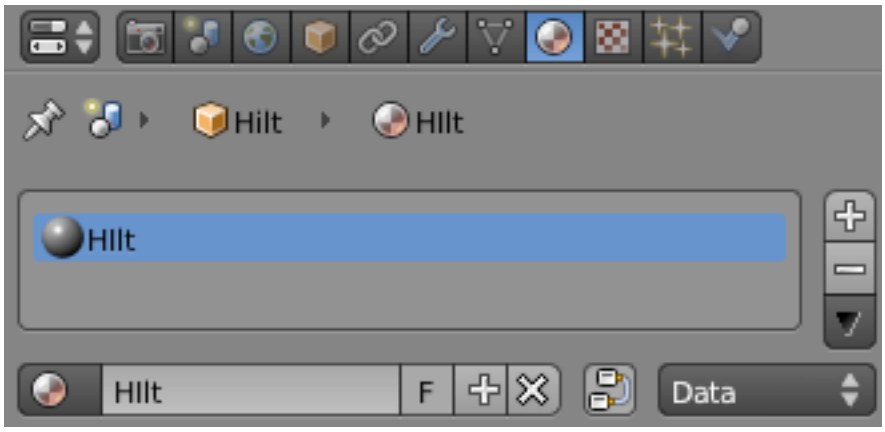




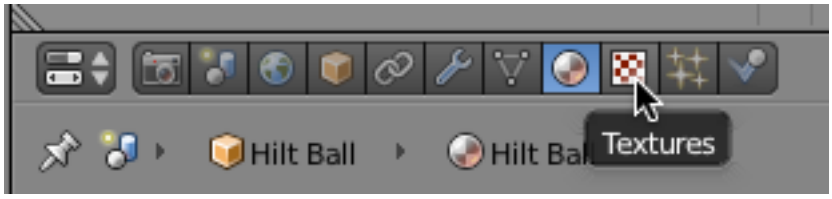
Select the Hilt object. Go to the Materials Editor.



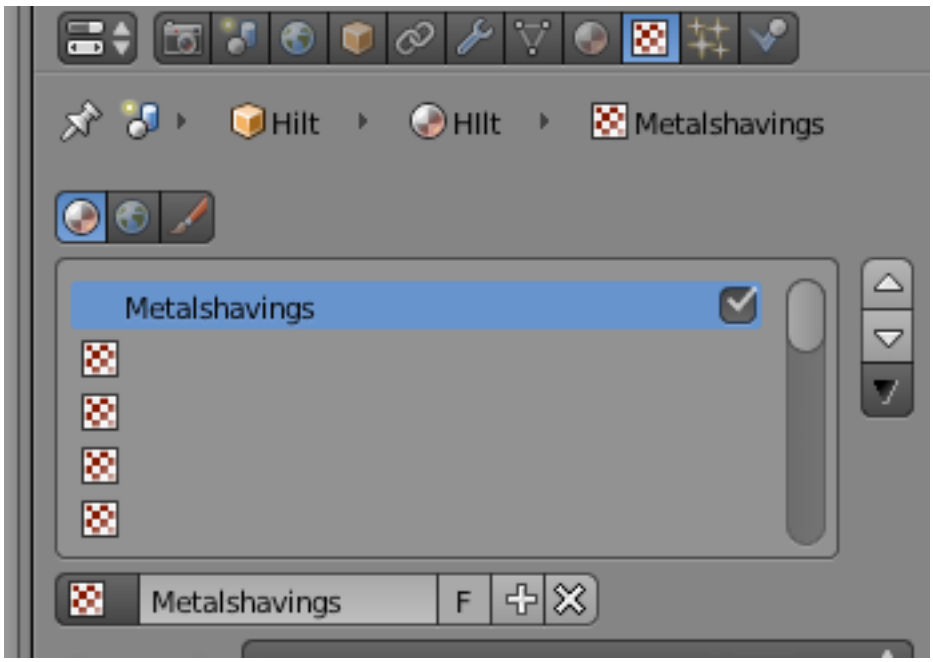
Click New and name this Material “Hilt”



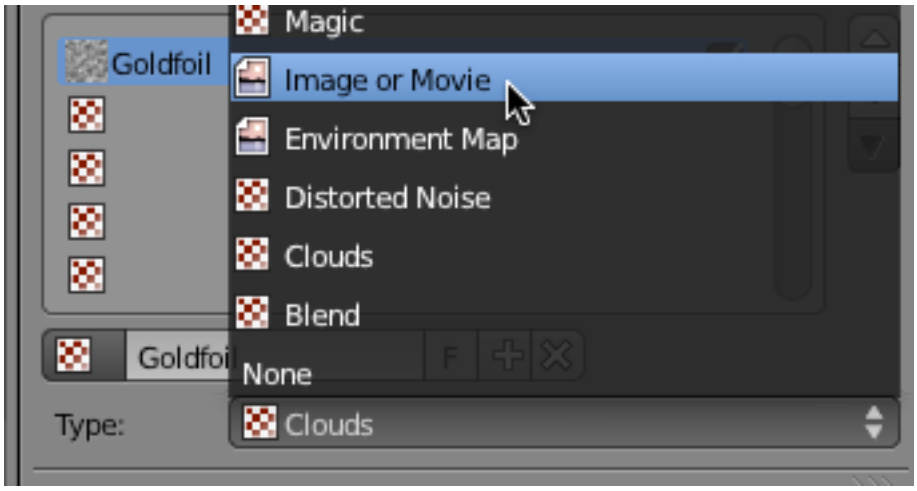
Go to the Texture Editor.



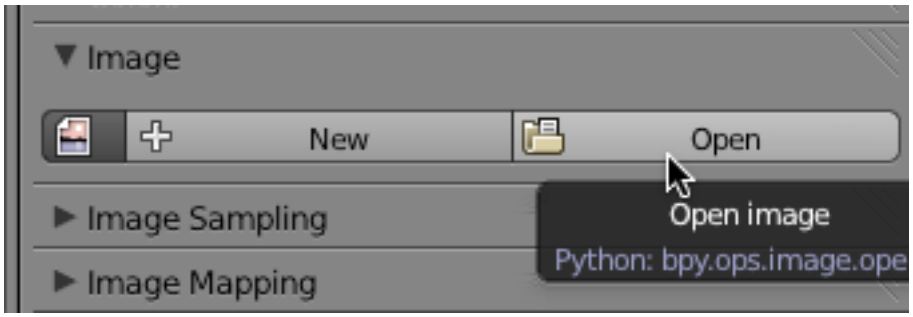
Click New. Name this texture “Metalshavings”



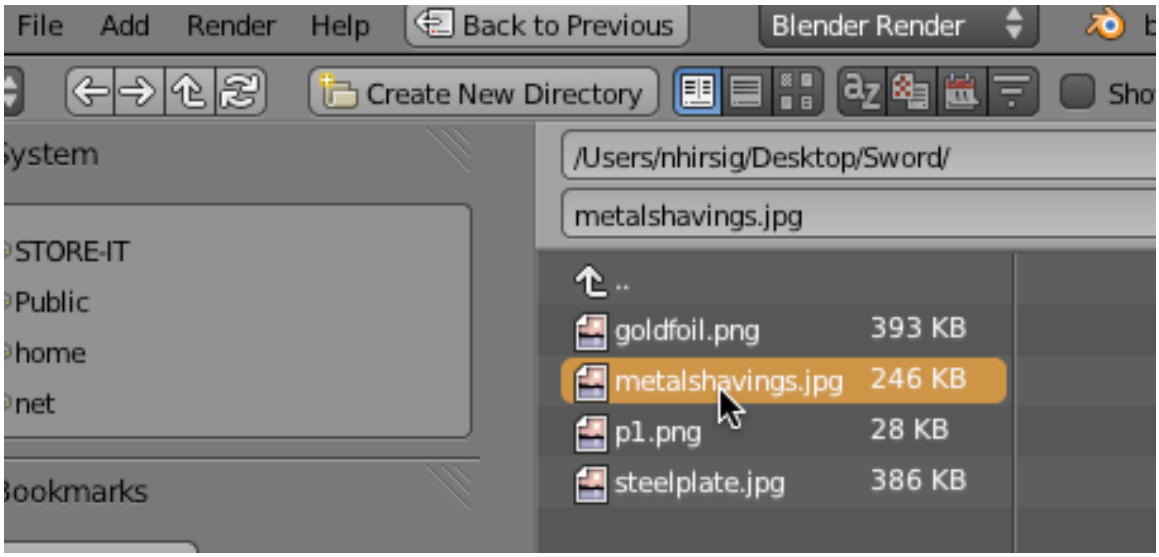
Change the Type to “Image or Movie”



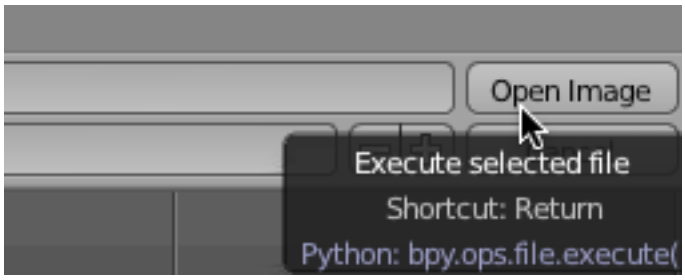
In the Image panel press Open



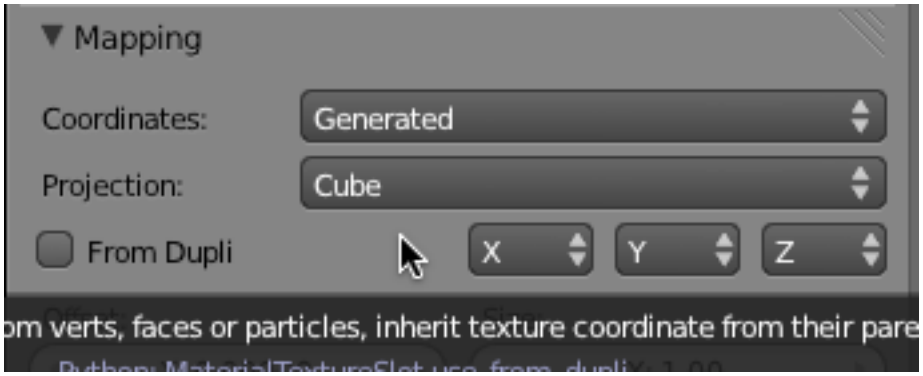
This opens Blender's file page. Locate the metalshavings.jpg file on your computer and select it.



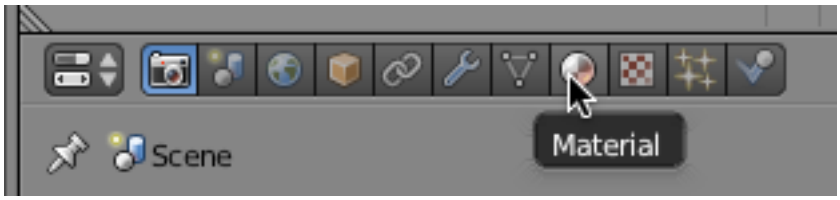
Press the "Open Image" button.



In the mapping panel, set the mapping to Cube.

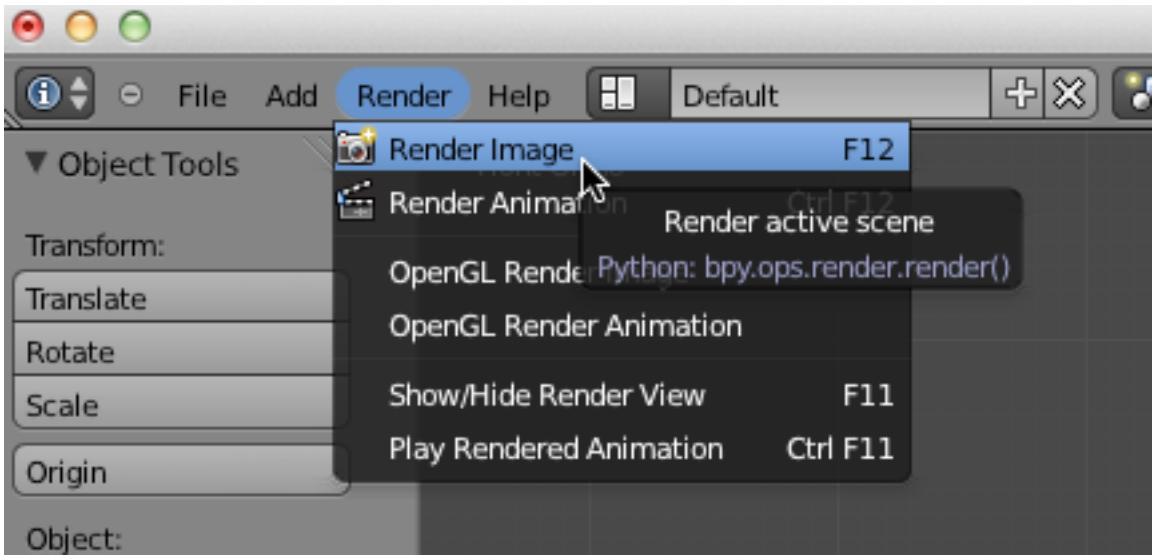


Go back to the Materials Editor.



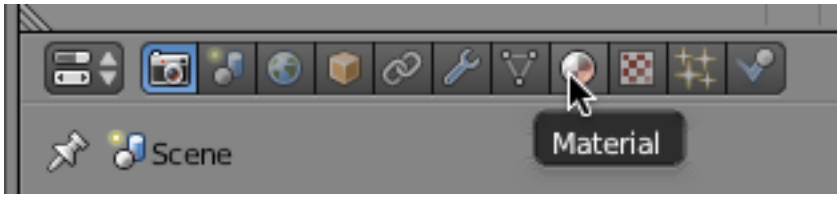
In the Specular panel, set the Hardness to 211.

In the upper menu press Render / Render Image.

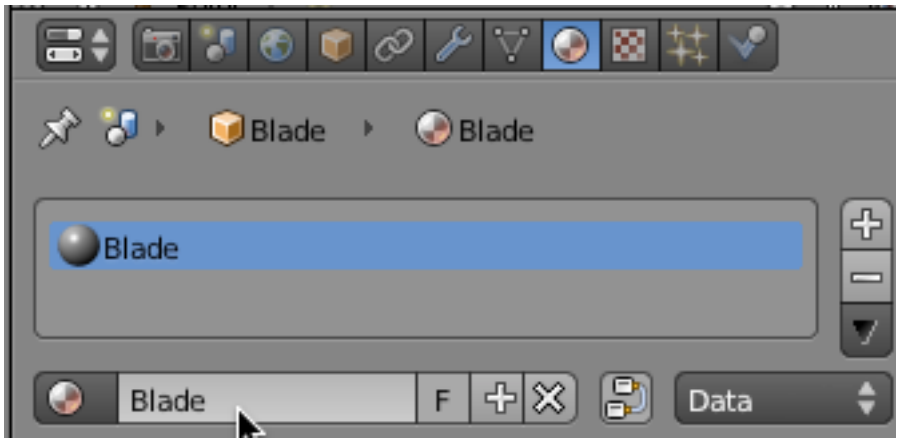


This will render the camera view in Blender's UV image editor.

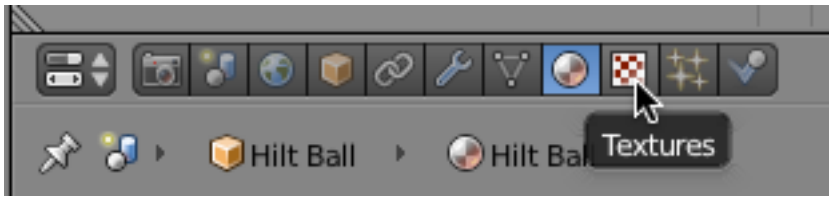
Select the Blade object. Go to the Materials editor.



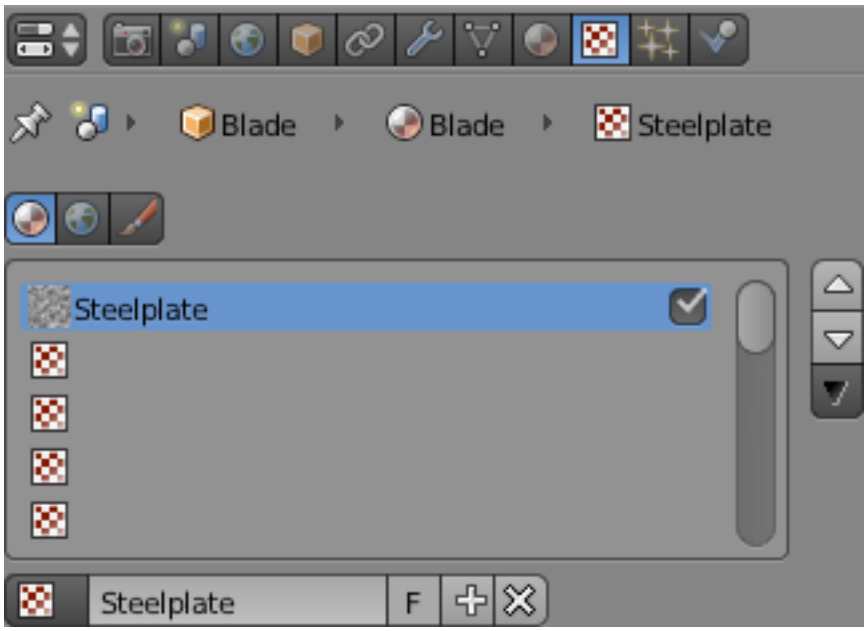
Click New and name this Material "Blade".



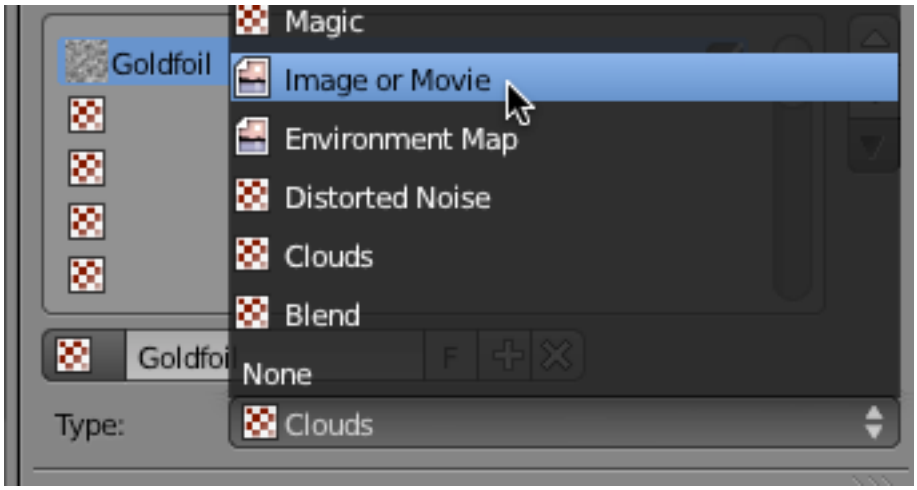
Go to the Texture Editor.



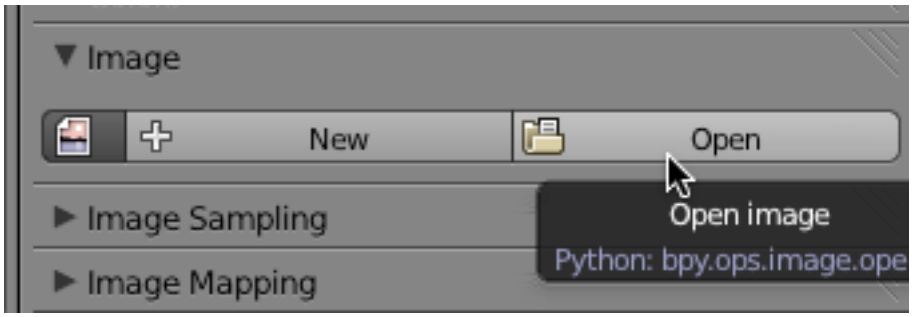
Click New. Name this texture “Steelplate”



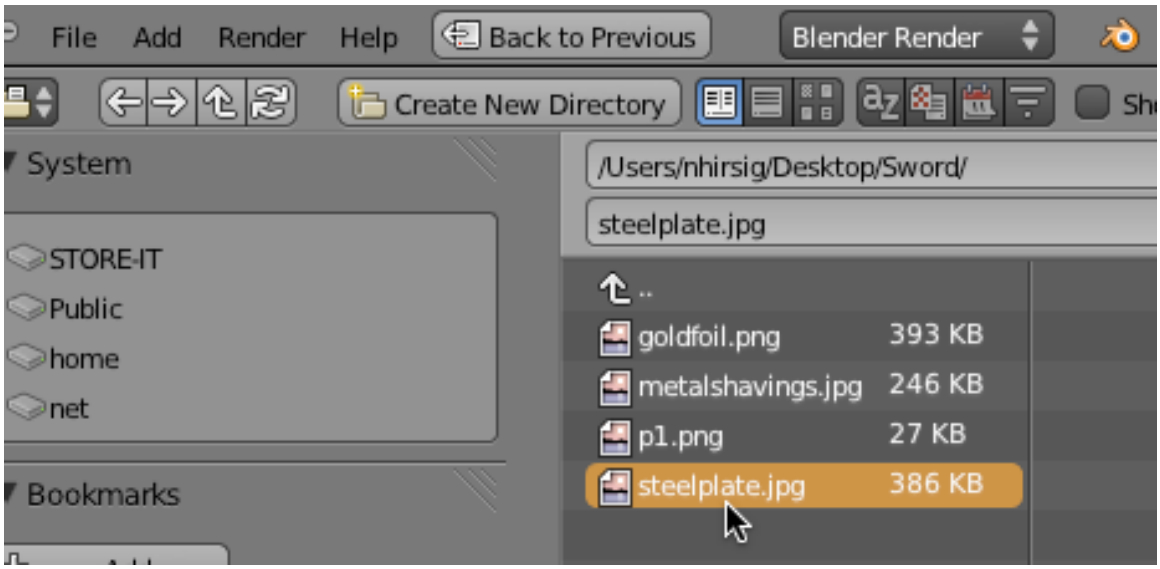
Change the Type to “Image or Movie”



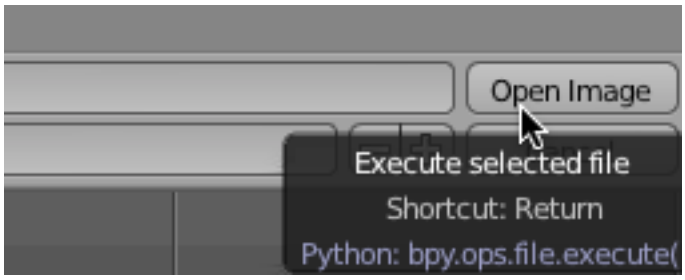
In the Image panel press Open



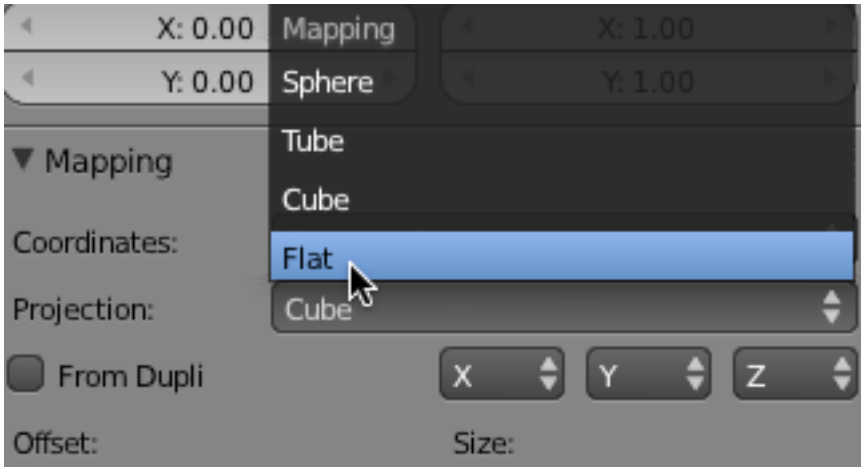
This opens Blender's file page. Locate the steelplate.jpg file on your computer and select it.



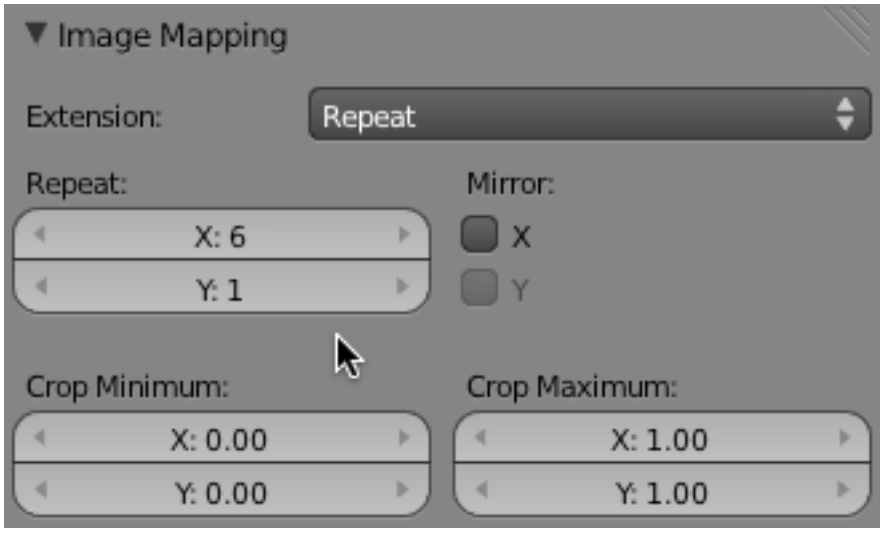
Press the "Open Image" button.



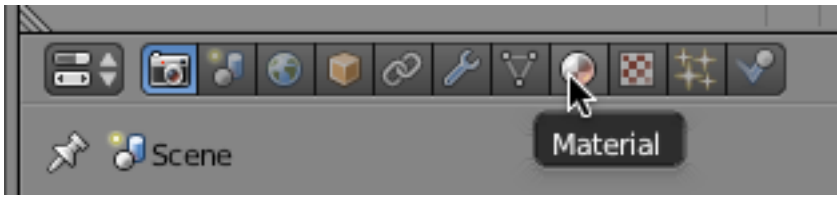
In the mapping panel, make sure the mapping is set to Flat.



In the Image Mapping panel set the X Repeat to 6. This will cause the image to repeat 6 times across the X axis.

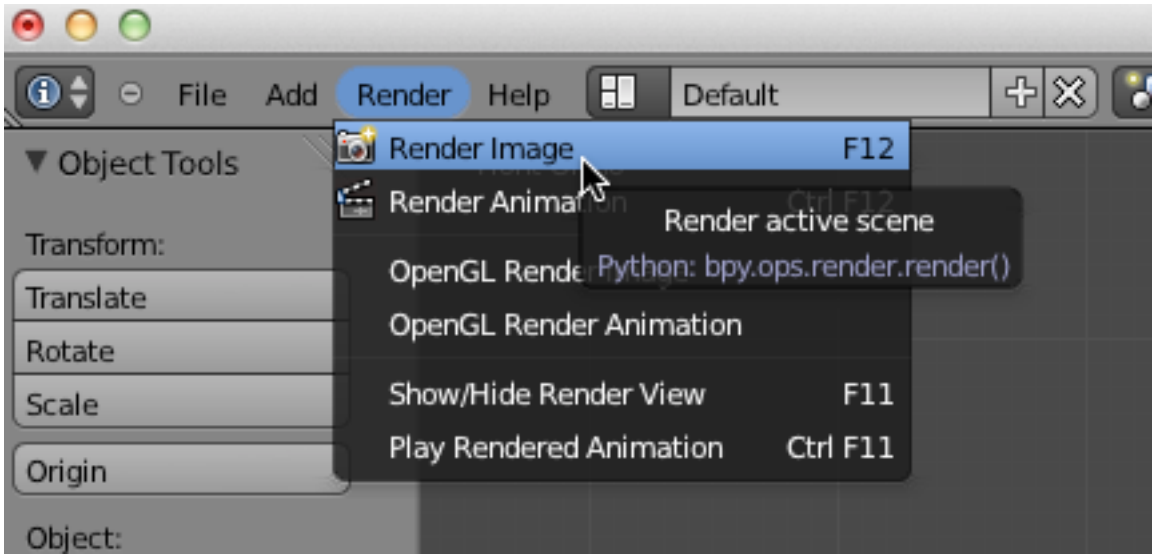


Go back to the Materials Editor.



In the Specular panel, set the Hardness to 192.

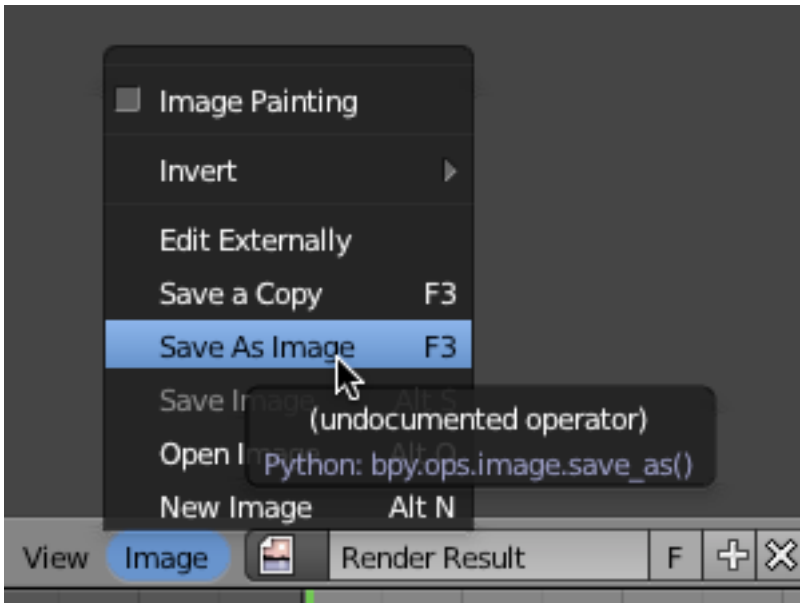
In the upper menu press Render / Render Image.



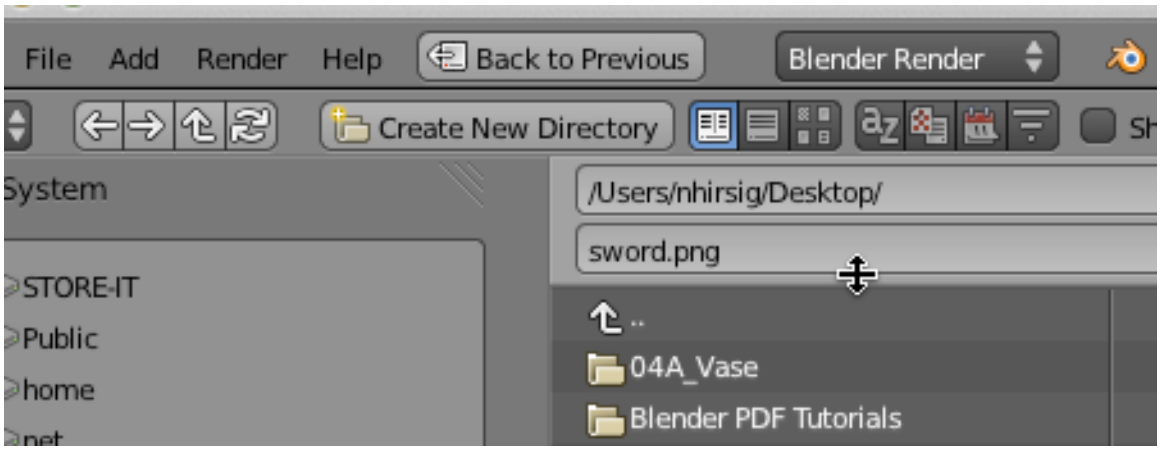
This will render the camera view in Blender's UV image editor.

Save your Blend file.

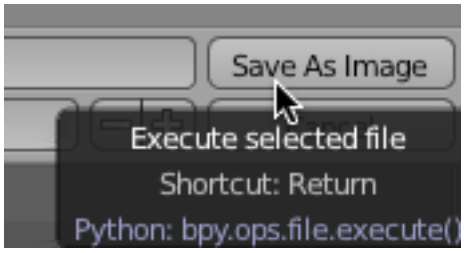
To save an image file of your sword rendering to your computer, click on the Image button in the UV Editor menu and select “Save As Image”.



This displays Blender’s file page. Decide where you want the file to be placed (I choose my Desktop) and name the file sword.png.



Click on the Save As Image button.



An image file will be created and placed on your desktop (or wherever you decided to save the file to).

A completed blend file of this tutorial named “Sword_Complete.blend” can be found HERE.