How To Make a Pinecone

By: Mai Y. Yang
We’ll begin very simple:
- Start off with a box.
- Add a bit of height to it (4 mm)
To get a rough outline of one cone petal:
- Make sure that you are in **Points** mode
- Select 3 of the points (*doesn’t matter which*)
- Click on the **Modify** tab and choose the **Move** tool (or press ‘t’) and drag them opposite of the unselected point
We want the cone to look organic so:
- Click on the **Construct** tab, then **Subdivide**.
- A dialog box will pop up; choose **Smooth**. Leave the data as is or if different from below, make sure it’s the same (otherwise, you may run into polygon troubles)
It should look something like this
To give the cone petal some unique bends:
- Make sure you are in **Polygon** mode.
- Select parts of the petal, *(doesn’t matter which)*
- Under the **Modify** tab, click on the **Bend** tool.
- *For good results, edit in all four windows*
To give the cone petal some length:
- Go back into **Points** mode
- Select the one point opposite of the other 3
- Under the **Modify** tab, click on the **Move** tool
- Drag the point opposite of the 3 points
Bend the object some more to get some nice dents, especially up closer to the tip
Once you’re happy with your cone petal, it’s time to build the cone.
- Make sure you are in **Polygon** mode
- Copy the petal by selecting the **Copy** tool at the bottom (or press ‘C’)
- Bring up the 2nd layer into the **Foreground** (At the upper right hand corner of the screen, click on the top half of the icon)
- Make the first layer the **Background** (In the first layer, click on the bottom half of the first icon, it should be in black outline)
- Once the first layer is all done, copy and paste the base into the next layer and make sure it is in the **Foreground** while the rest is put in the **Background**.
- Under the **Modify** tab, choose **Rotate** (or press “y”) and rotate this layer around. (*Use the Top view*)
- In the same tab, choose **Size**. Move your mouse towards the center for the size to decrease.
For the opening cone effect:
- Make sure you are still in the **Points** mode and select the top parts of the cone petals.
- Under the **Modify** tab, choose the **Taper** and fix the layer so that it looks something like the bottom image. (You can also use the **Drag** tool (‘t’) and pull it up.)
Do as many layers as desired using the same technique, however, be careful of your polygon count. Now, to get the bottom part of the pinecone, just go back to copying and pasting the previous layers and rotating them around so they face downwards. Keep in mind the bottom layers should be getting bigger and wider.
For the stem on the pinecone:
- From the **Create** tab, choose the **Cone** tool and make something like the image below. (*This part will not be so visible so no need to detail it.*)
Once that is done view the entire cone:
- Either click on all the layers with objects in them or if there are too many layers do the following:
- Click on **Modeler > Windows > Layer Browser Open/Close**
- The **Layer** dialog box will pop up. Click on the check mark under the “F”. All of the layers should now be in the foreground
Completing the pinecone:
- Press the ‘q’ and name the entire object ‘Pinecone’ then choose brown.
- Either add a texture or in my case, just choose a color and a preset texture.
- First, click on the **Surface Editor**, the dialog box will pop up. Also, click on the **Presets** selection and its dialog box will open up.
- In the **Presets** box, make sure you are in the texture selection (*default is Workspace*) then scroll down to find **Dented**; double click the image (*it’s now loaded into the object as the texture*)
- In the **Surface Editor** box, click on the **T** for texture.
- The texture dialog box will now pop up. The Dented image will be defaulted in blue. Click on the color square. One more dialog box will pop up then choose a brown color.
Now we are ready save this object and bring it into Layout.
- Click on File > Save Object As then give it a name (Pinecone)
- Open up Layout, and load in the file.
- Render the image and it should come out something like:
Problems I encountered

Problem: Too many polygons
Solution #1: QemLoss2 tool
Solution #2: Less layers
Solution #3: Use Subdivide sparingly