

## **CODERDOJO TRAMORE 2022 - BLENDER TUTORIAL #1 -**

### ***MODELLING A CHARACTER***

This tutorial is a walk-thru of the quick guide to model a stylised character in Blender using sculpting techniques.

This is drawn from a youtube tutorial at the link below , after this tutorial if you would like to see further details on the steps you can click on the link to view: -

<https://www.youtube.com/watch?v=KsDe1V9Dl-0>

The final goal of this tutorial is something like this: -



But this takes hours and hours of practise!, so don't be disheartened if you don't achieve this level of mastery immediately.

All the same on my first go, as an absolute beginner I achieved this which I was fairly happy with, even if its just a tad frightening!:-



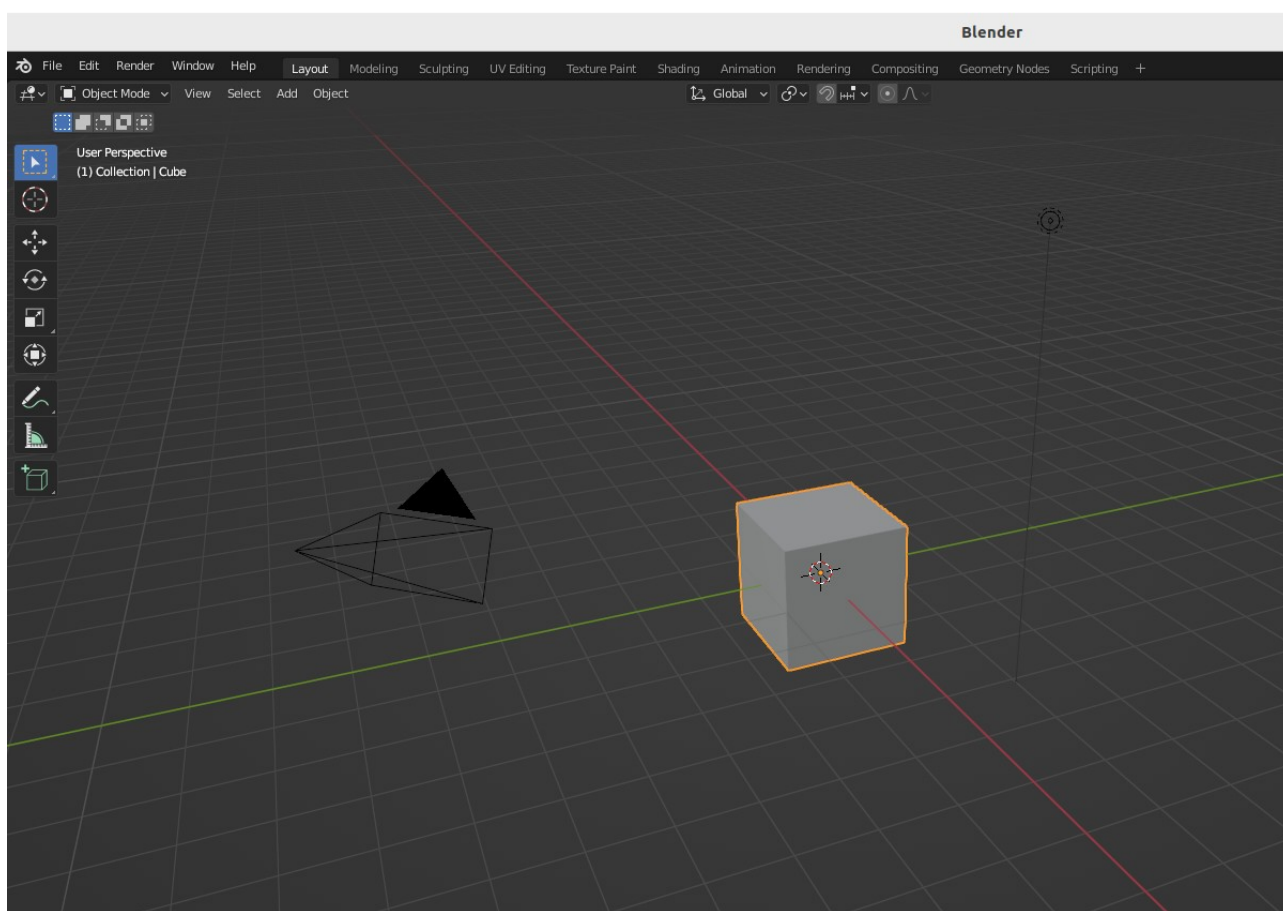
And now its time for you to have a go also :-)

“Blender” is a completely free, open-source 3d modelling and animation software package that can run on many operating systems, windows/linux/mac etc.

Start the Blender application and let’s begin: -

### **SOME BLENDER ABSOLUTE BASICS: -**

Every new Blender file starts with one object in your 3d world – a 3d cube: -



The cube is placed exactly at the center of the x-axis (think position left to right) and y-axis (think position forwards and back) and z-axis (think up and down).

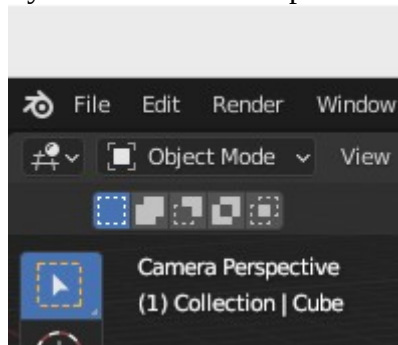
You can also see a camera in the air pointing directly at the cube and a small light source (lighting provides light and shade for your final rendered scene) just behind.

Blender is packed full of millions of **keyboard shortcuts** which pros use to speed up their work, and are really worth learning off -

For example, if you now press “0” on the numpad keyboard on your pc (if you have one) – the view will switch to show exactly what the camera sees. Press “0” again to cancel this.

Blender has several “modes” to work in as you build your 3d scene.

We are currently in **object mode** as you can see in the top left of the screen:



Object mode is used to select whole objects, like the cube for example. It is currently selected and we can tell this because of the orange highlighting around its edges.

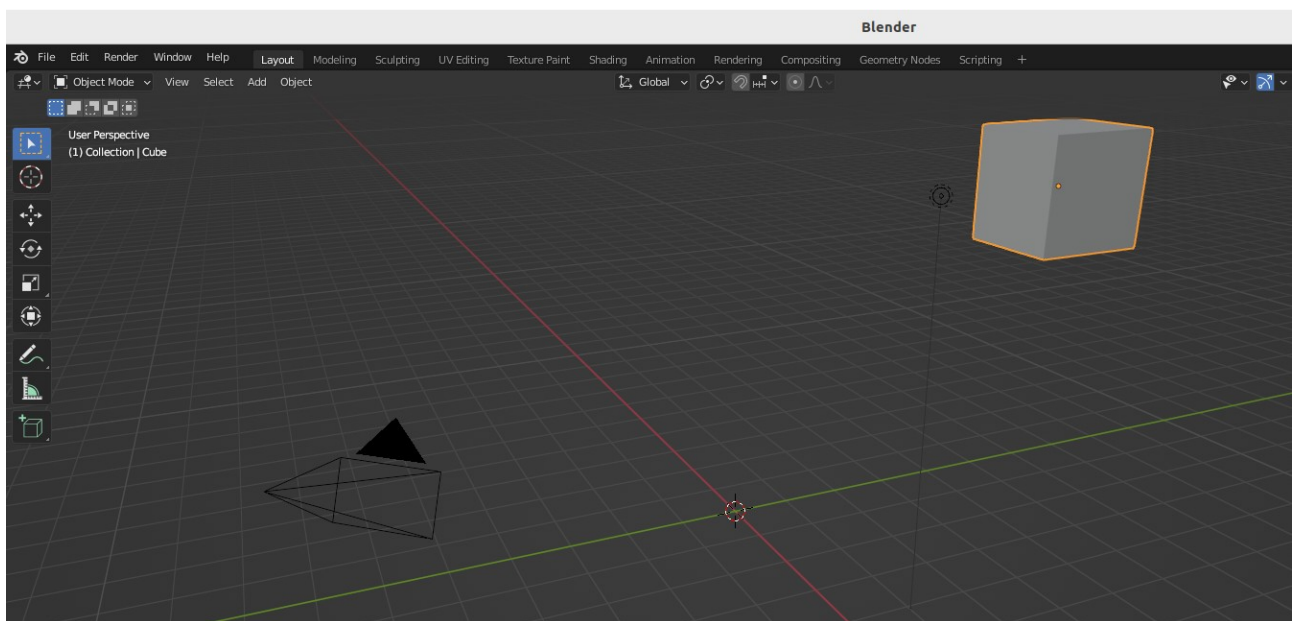
Object mode allows you to perform various actions on the object **as a whole**, such as: -

- \*] “Grab” – picking the object up and moving it to a new location
- \*] Rotate – rotating the object into a new position
- \*] Scale – resizing the object – either in all directions or just one particular direction

And many more.

Let’s do an object mode action now, with the cube selected let’s press “**G**”, the shortcut for grab. This “picks up” the cube and you can now replace it where you like by moving the mouse.

Left-click with the mouse to place the cube in its new position – well done you’ve done your first Blender action!



Let’s put it back where it was however by “undoing” that action, we want the cube to be perfectly centered for our actual sculpt, so to do this press and hold the “Ctrl” button and then also press Z

(often written as CTRL + Z, and I'll use this notation when I mean to press two keys at once from now on)

....

Because you are of course just moving the mouse on a 2d screen, it can be difficult for Blender to tell what direction exactly you wish to move the object in, so it can be really useful to move in just one specific direction at a time when moving objects.

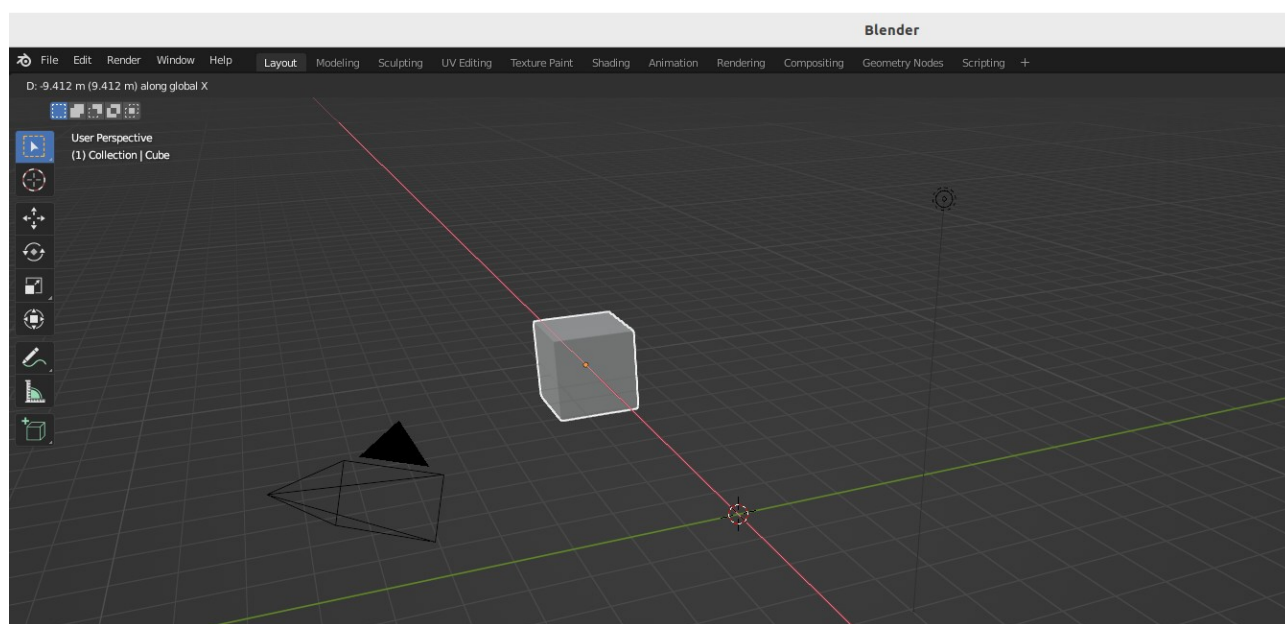
To this, immediately after pressing “G” you then press the “axis” that you want to restrict the object to only move in, again you can think of the axes like this :-

X-AXIS – “Left and Right”

Y-AXIS – “Near and Far”

Z-AXIS – “Up and Down”

So let's move the cube on the x-axis only – press “G” and then press X. You will see the x-axis highlight and now when you move the mouse the object will only move in the X direction as if it were on a rail. Move it to a new spot but then press CTRL + Z to undo back to the center again.



Now as we sculpt and build it is essentially to be able to move around our scene and view our work from the different angles – currently we are looking down on the cube from above, let's try to change that.

The first technique is something that is commonly known as “**Orbiting**”.

To do this, you simply press in and hold the little scroll wheel button on the mouse (so it is important to have one, most mouses these days do) and move the mouse.

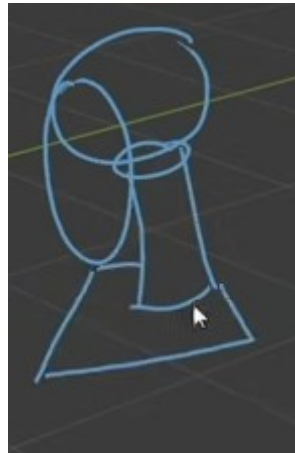
The view will spin whilst remaining focused on the cube. Its a bit like flying, with a bit of practise you can zoom around the cube and quickly view it from any angle.

Next – **Zoom In and Zoom Out** – this is even easier, just spin the scroll wheel forwards and back.

And lastly it is sometimes useful once you have lots of objects in your scene, to shift your view focus left and right or up and down, a bit like taking a step left and right or standing up on a box - this is called “**panning**” and do it you hold down the “Shift” button on the keyboard, and then press the middle button just like for orbiting – the current view will now move just left right or up down according to how you move the mouse.

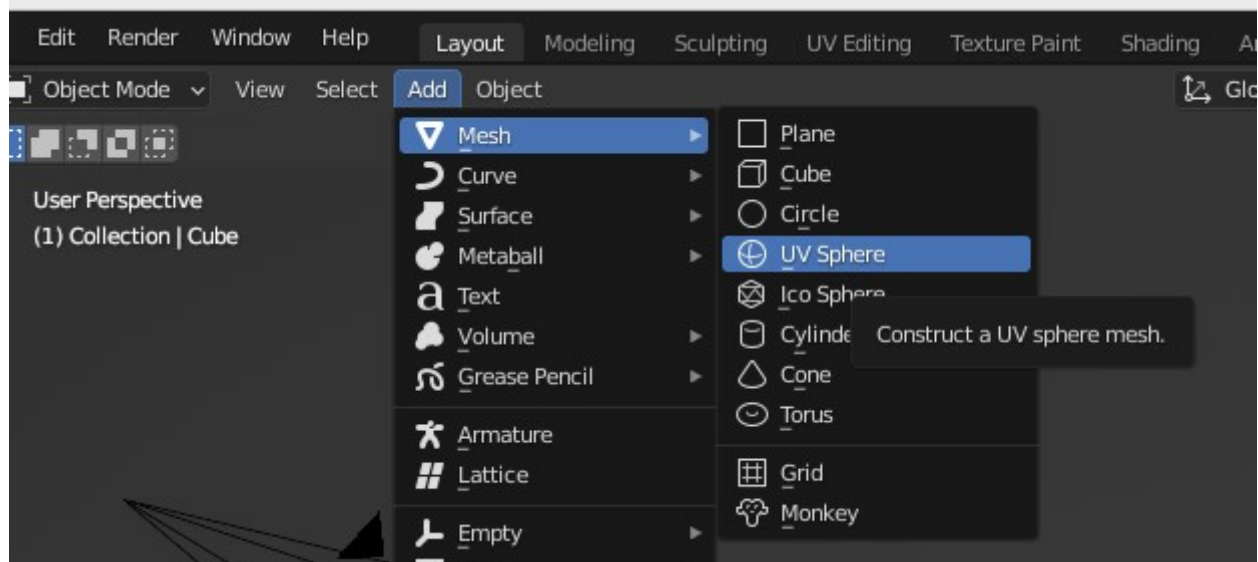
OK let’s start building our character.

This is the basic geometry of our figure: -

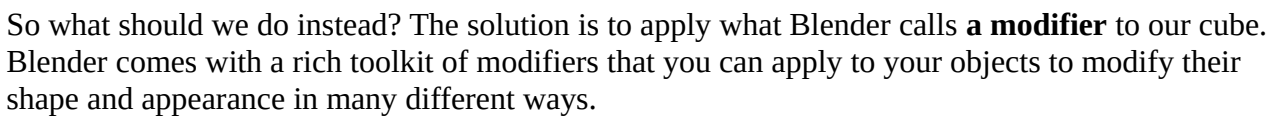


2 spherical parts to the head, a neck and a torso section at the bottom.

Now, you may be tempted to add a sphere object using:



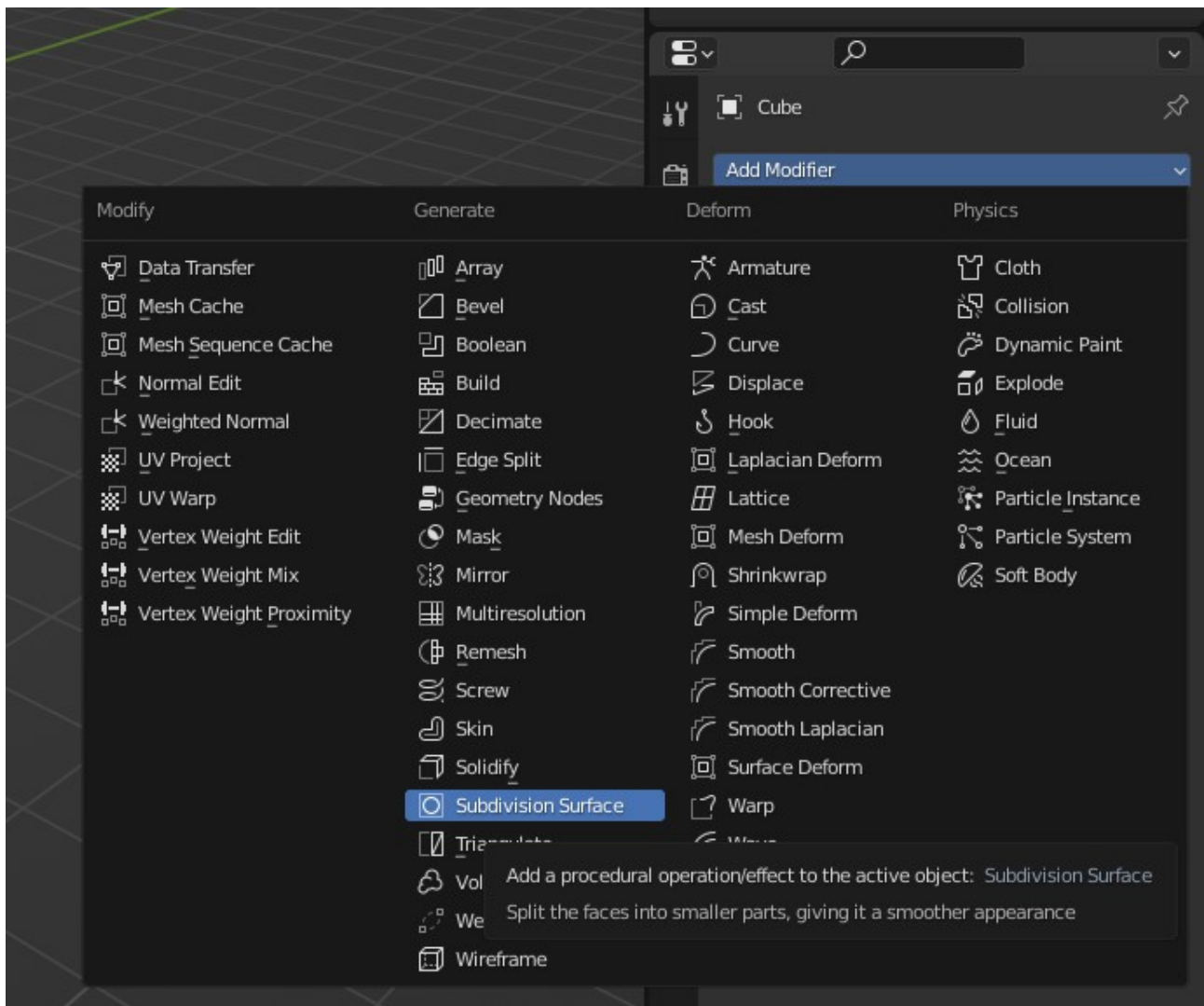
BUT there’s a problem with this approach – a sphere for the head parts is not good for the sculpting process we want to do – because sphere’s in Blender have these kind of triangular faces at the top and bottom : -



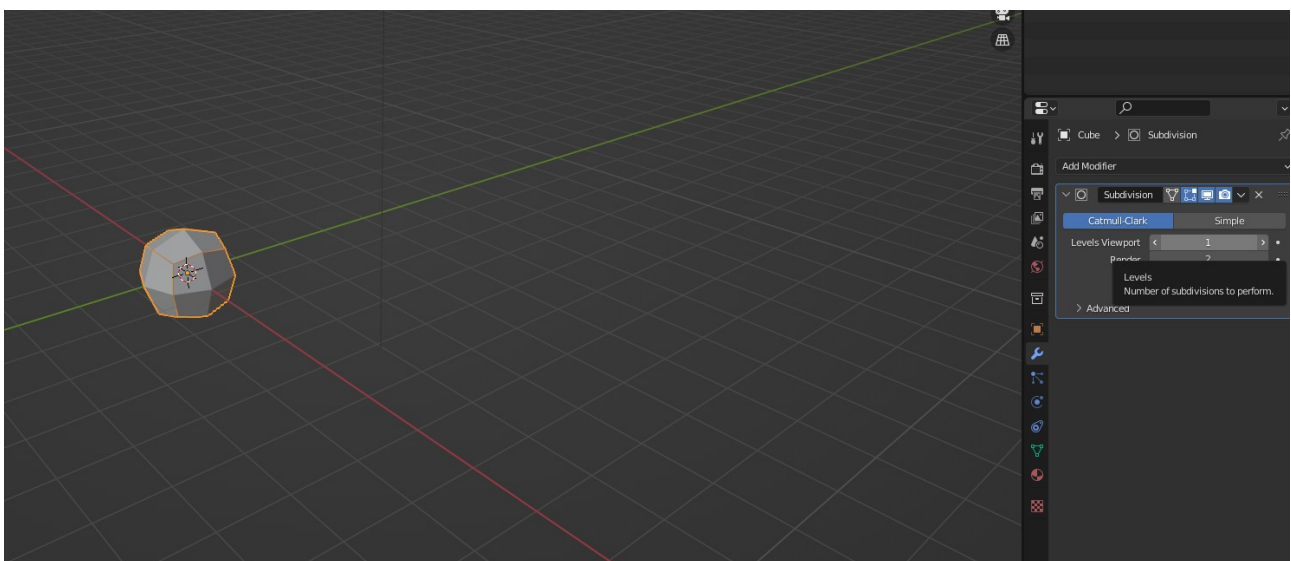
The screenshot shows the Blender 2.80.2 interface. The Outliner panel on the left displays a single object, 'Cube', which is highlighted with a blue square icon. The Properties panel on the right shows the 'Add Modifier' button, indicating that the user is in the process of adding a new modifier to the selected object.

You now have the option to “Add Modifier” – hit the drop down arrow to see a menu of all the possible modifiers and select “subdivision surface”: -



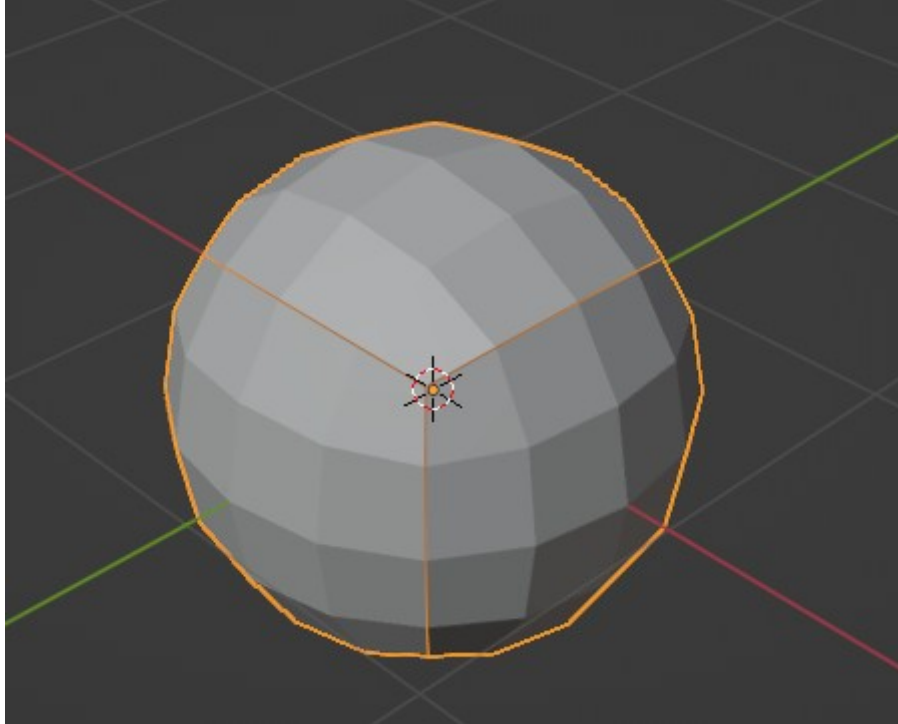


This will divide each face of your object into smaller faces and rounds it as it does so, given a smooth appearance.



The “levels viewport” parameter can be changed by clicking the left or right arrows in the field, and controls how many subdivisions the modifier performs.

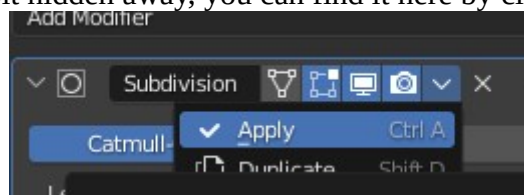
1 is too coarse for what we need, but if you increase this to 2 this should do nicely: -



Now whenever you are happy with a modifier, it is good practise to fully “apply” it. If you don’t, later on when we are joining separate objects together you can get strange effects as unapplied modifiers spread. Until you apply the modifier fully – you are only seeing a virtual “preview” of the modified object.

So to apply this current subdivision modifier – simply press CTRL + A **while the mouse is over the modifier section** and you should see it disappear which means it has been permanently applied to your object. (though you can of course undo with CTRL+Z).

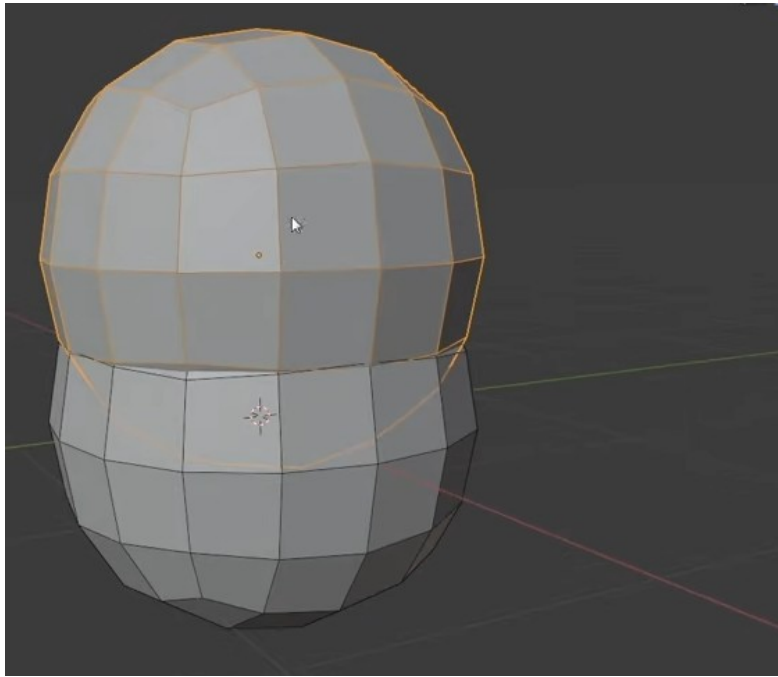
[aside: in older versions of Blender than Blender 3, you may need to select the “Apply” option from the menu instead and it is a bit hidden away, you can find it here by clicking the down arrow icon: -



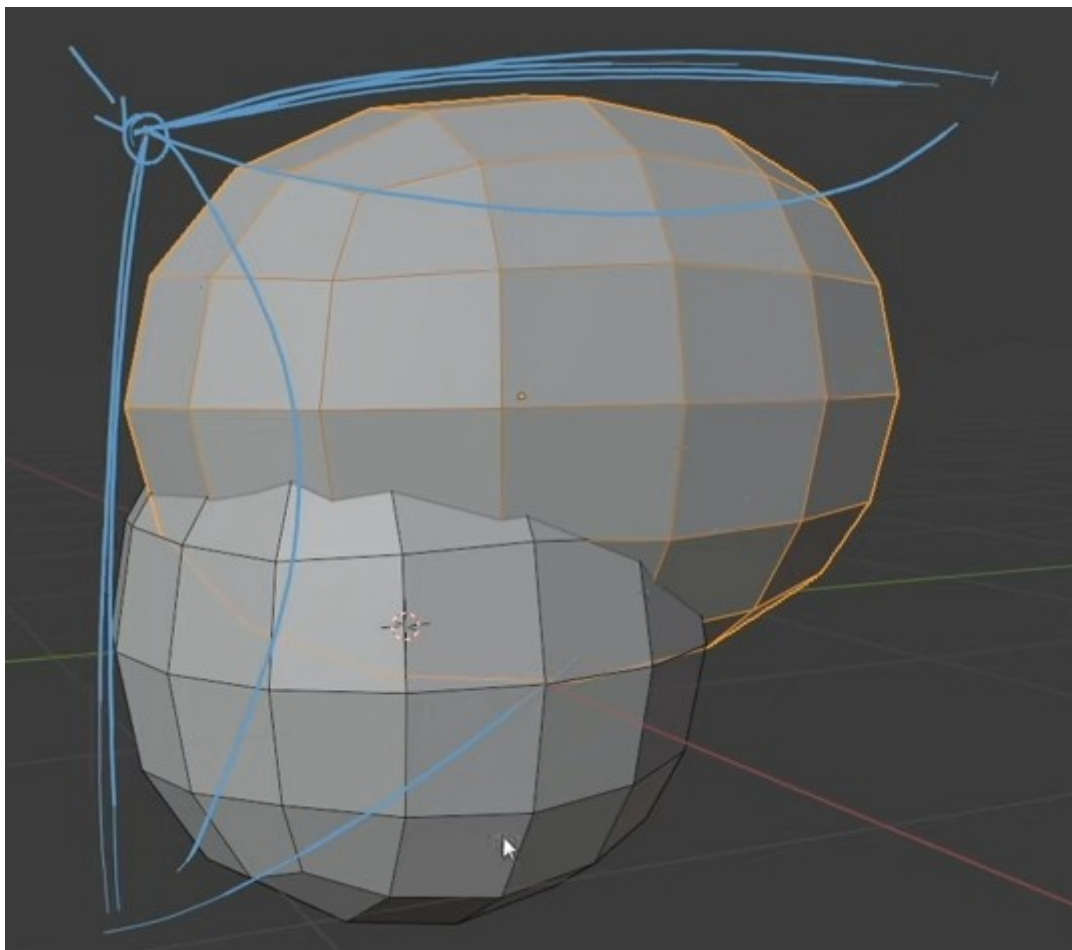
]

So next, as in the quick anatomy sketch above, we need **two** spheres so a quick way to do this now is to duplicate the sphere we just made – select it then press “SHIFT + D” (this is the shortcut for “duplicate”). The new duplicate is automatically in move mode (like pressing G). Press Z to only move up and down and place it sitting on top of the first something like this: -





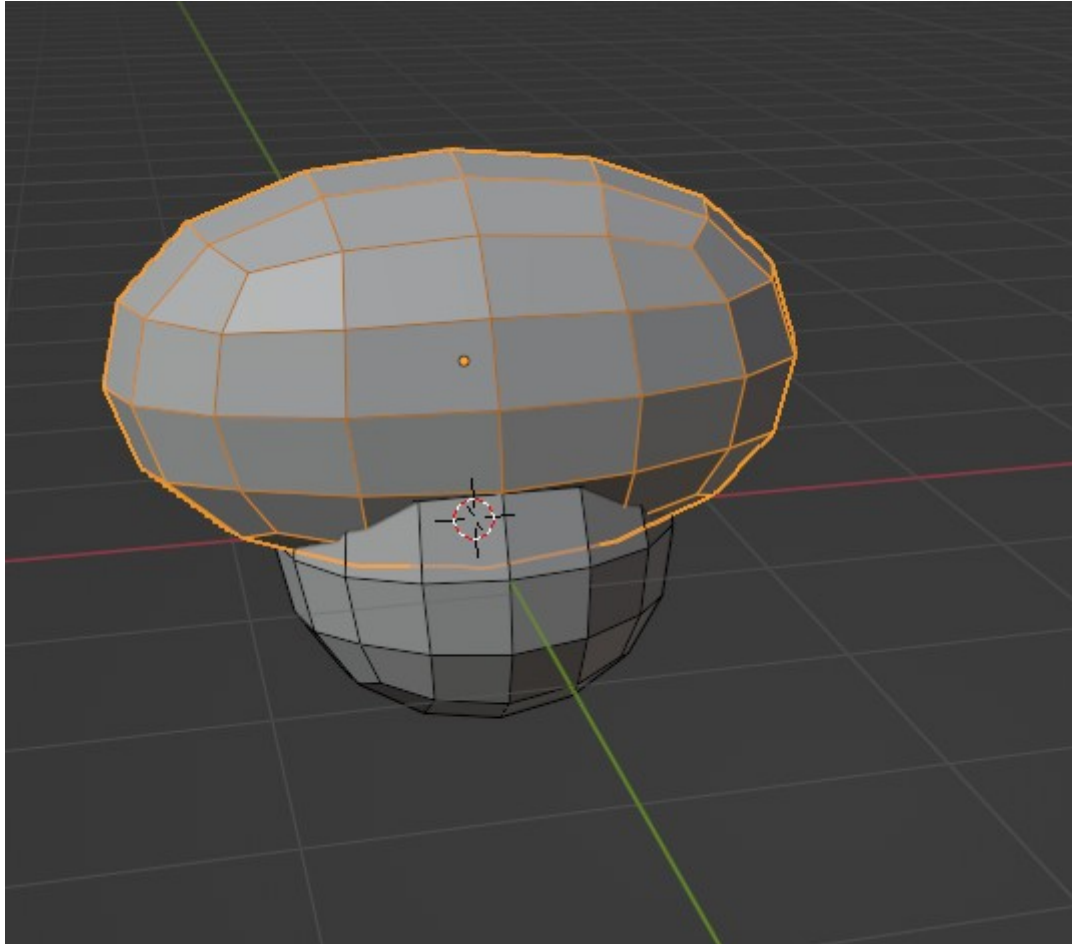
The top sphere is to represent the cranium or brain part of the head, the lower is the jaw section of the head. So we need to elongate the cranium like so :-



To stretch the top sphere: -

Select it.

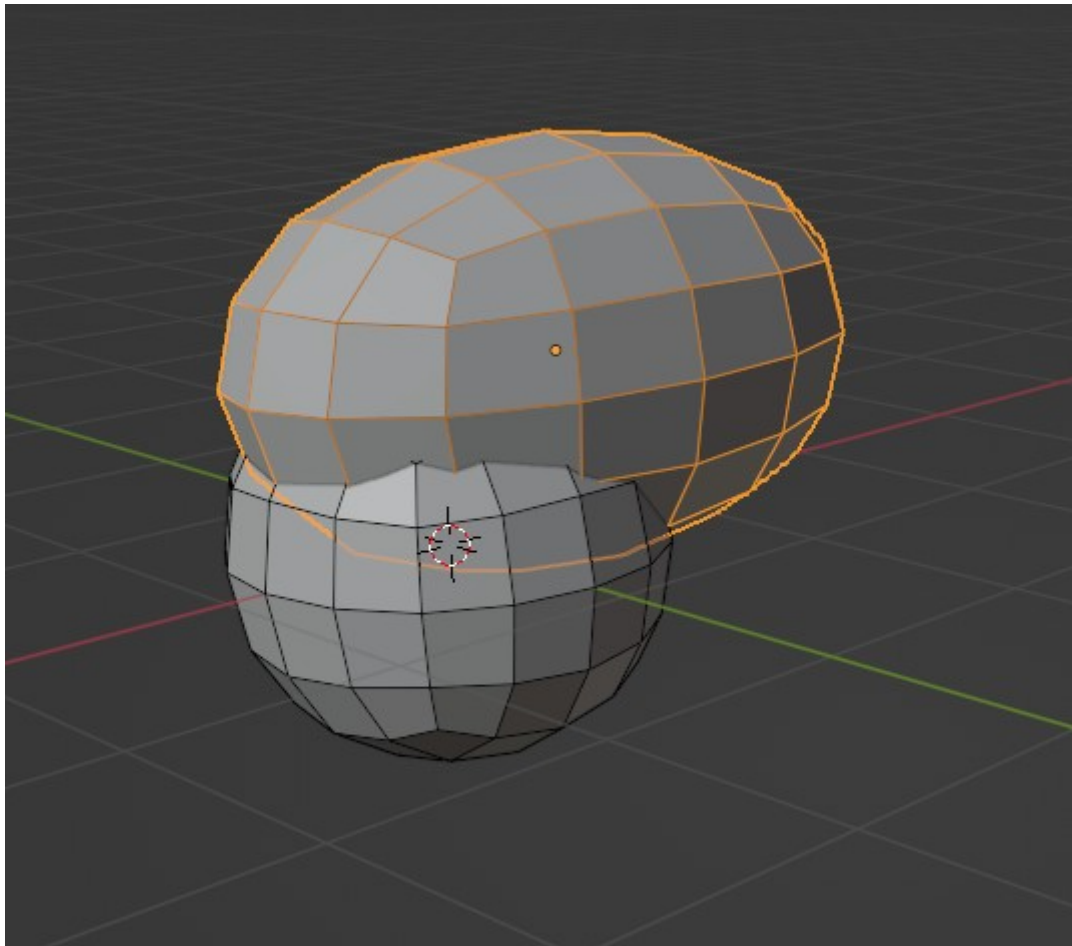
Press “S” for Scale. Then press “X” to only scale in the X axis direction and use the mouse to stretch it out a bit, when you are happy with it press CTRL + A and select “Scale” in the apply menu that appears: -



This is looking good but the front edge needs to be aligned as in the anatomy diagram above.

So we use our “G” grab shortcut. Press G and again press X to only move along the X-axis. Move the top shape back until it looks something like the anatomy diagram above.

You know have a very rough head and jaw -!



We are almost ready to begin sculpting – but one final step before doing so is to “join” these two objects together, do this as follows: -

Select one of the spheres by clicking on them.

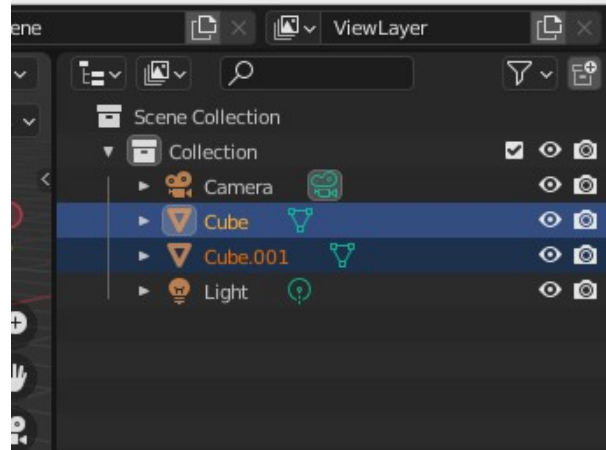
Select the 2<sup>nd</sup> one ALSO by holding down the SHIFT button on your keyboard and then clicking on the unselected sphere.

You should now have both objects highlighted in orange at once, and this means they are both now selected together.

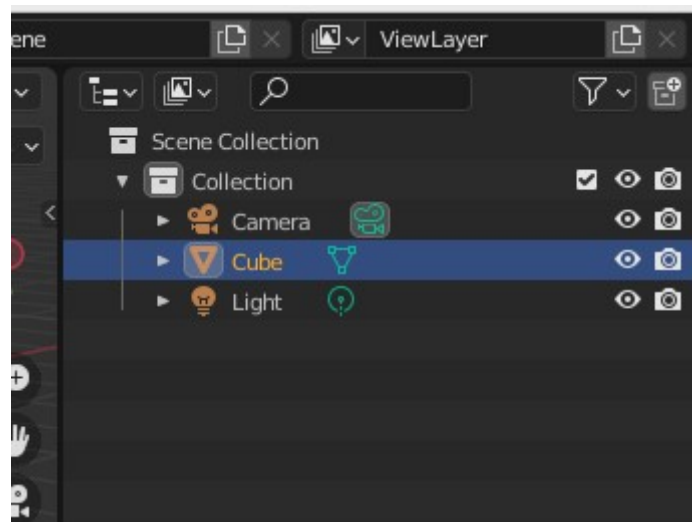
There are a couple of ways to do this, one other way is to just click and draw a selection box around them both, but this method quickly becomes trickier once you have a lot of objects in your scene.

So before we begin to sculpt, we join both these objects, simply by pressing “CTRL + J”. From this point on Blender considers them just one unified object, the exact same as primitive objects such as cubes.

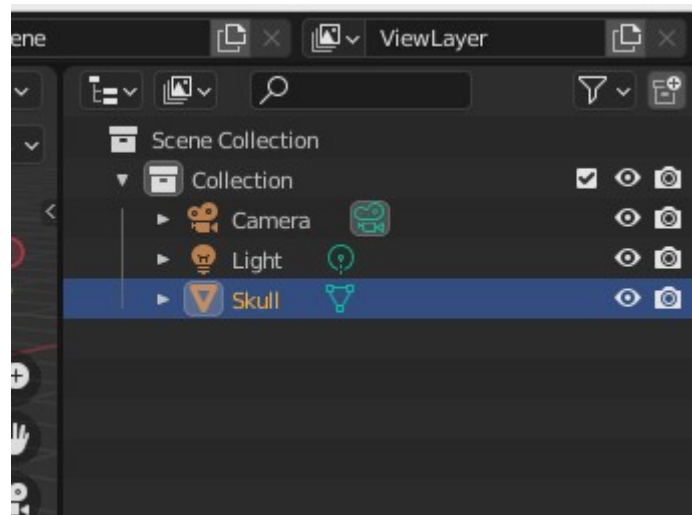
In the object navigator top right, you can see that the list of object changes from: -



Two “cube” objects .. to just one “cube” object: -



Let's change the object name to make it more representative, let's call it “skull”. Do this double click on the word “cube” and you can type your own name for this new unified object.



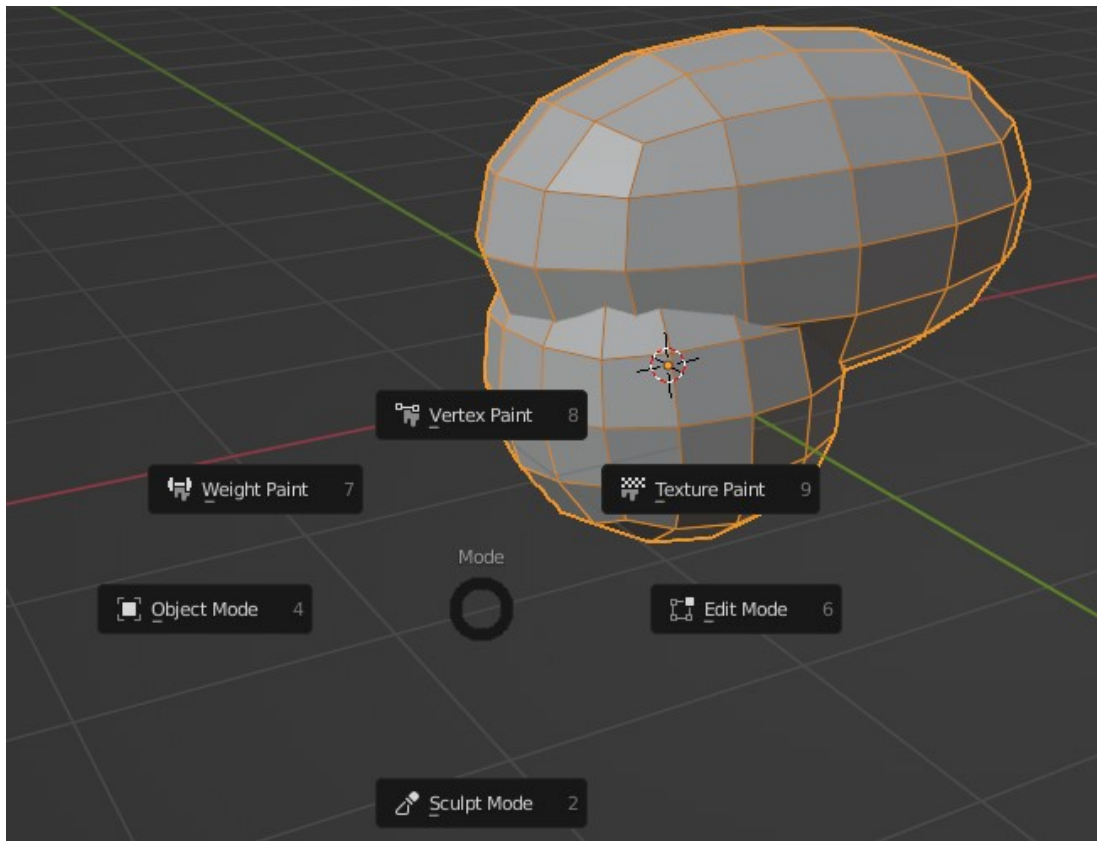
Whenever you click on the “skull” row in the object navigator, it automatically selects this object and this is now a handy way to select it when you want to work on it going forward.

## AND WITH THAT ... TIME TO SCULPT!!

The first step is to switch the Blender mode to “sculpt mode”.

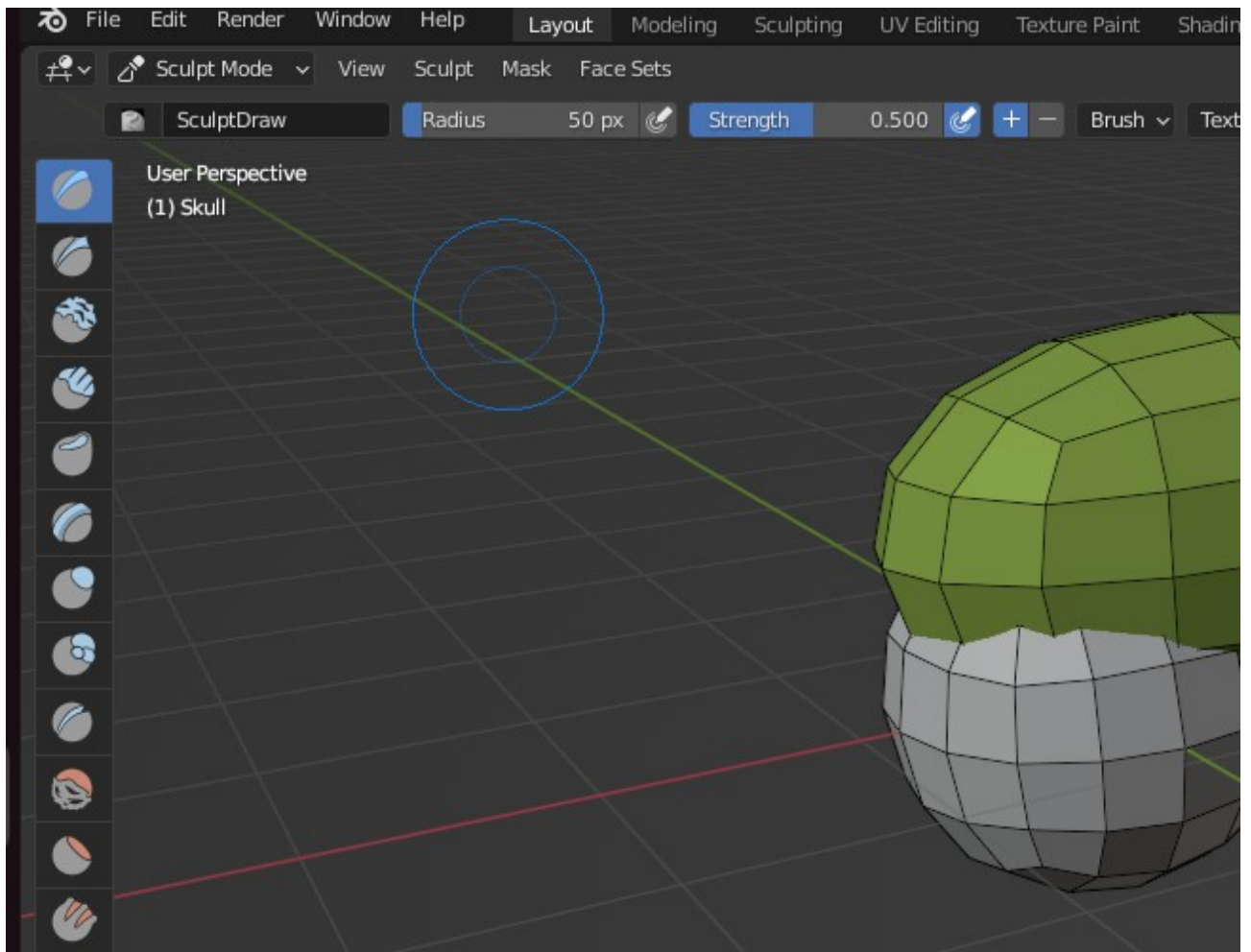
There are two ways to do this, the quick way is to press “CTRL + TAB” on your keyboard (Tab is a top left button on most keyboards, sometimes labelled tab but sometimes just a left and right arrow).

This pops up a floating menu of all the possible mode switches :-



Press “2” for Sculpt Mode, or move the mouse to the box and click on it.

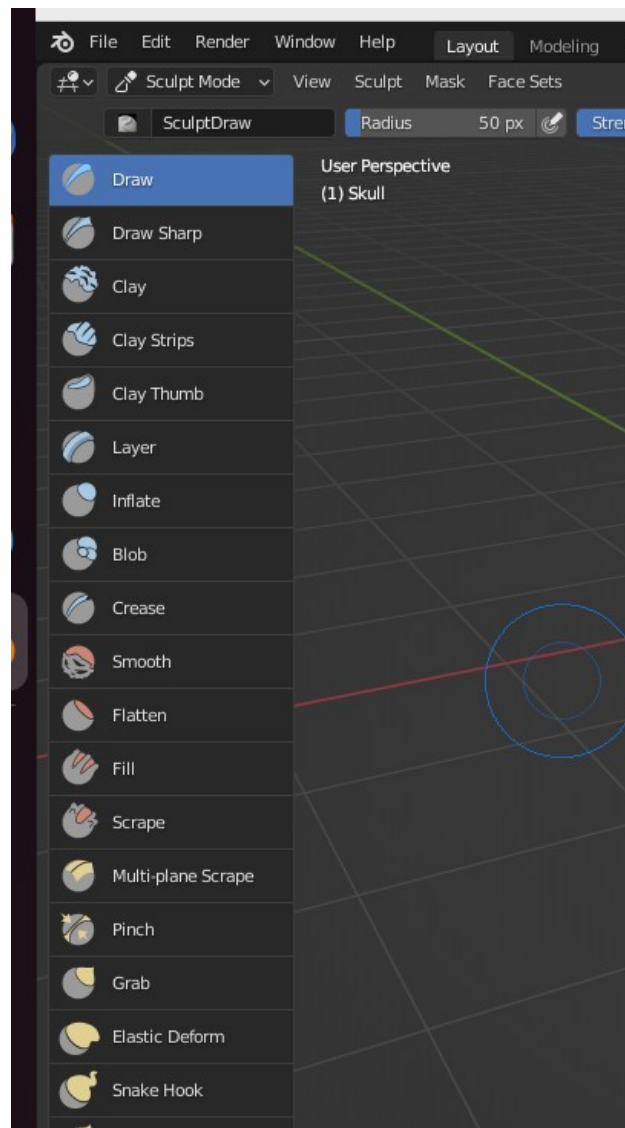




The mode is now showing as “Sculpt Mode” in the top left instead of object mode – and you can see numerous sculpting brush tools have appeared in the menu to the left.

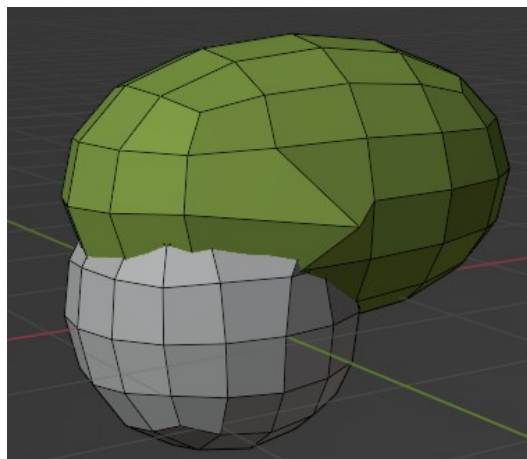
You might notice there is a drop down arrow in the box that says “Sculpt Mode” and this is the 2<sup>nd</sup> way you switch between modes, simply hit this drop down arrow and you can pick the mode you wish to switch to – this is a little easier to remember if you forget the CTRL + TAB shortcut.

As a beginner, it’s very useful to have the names of the sculpting tools shown on the left – to do this simply click on the edge and pull the bar a little more over to the right until the tool labels are revealed: -



These tools allow you to sculpt just as if you were working with clay in real life – you can add amount of scrape or dig away – and you push and pull each vertex to “mould” to the shape you require.

So we’re going to use the “Grab” tool to do the initial shaping. Select this tool and then click on any vertex in the wireframe and move it gently away from the shape. You will see your shape remoulding in the direction you’ve moved:

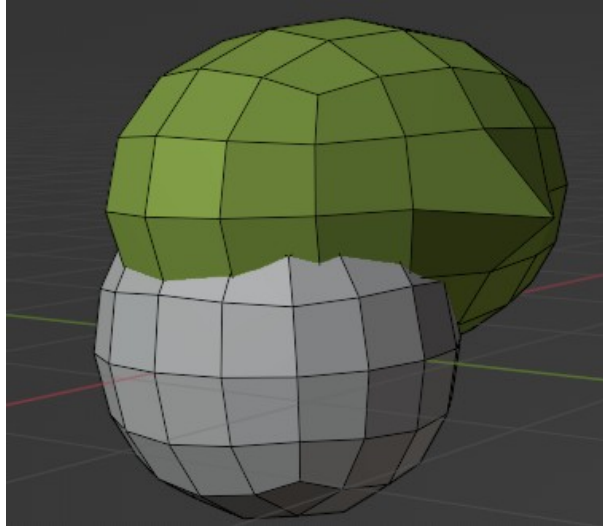


But there's a problem – you can just see there that the jaw shape is also being affected – we don't want this - instead we want, even though they are now joined in the one object, for only the cranium part to be effected or only the jaw to be effected as we sculpt mould each part.

To do this, first use CTRL+Z to undo the experiment above and instead to the following : -

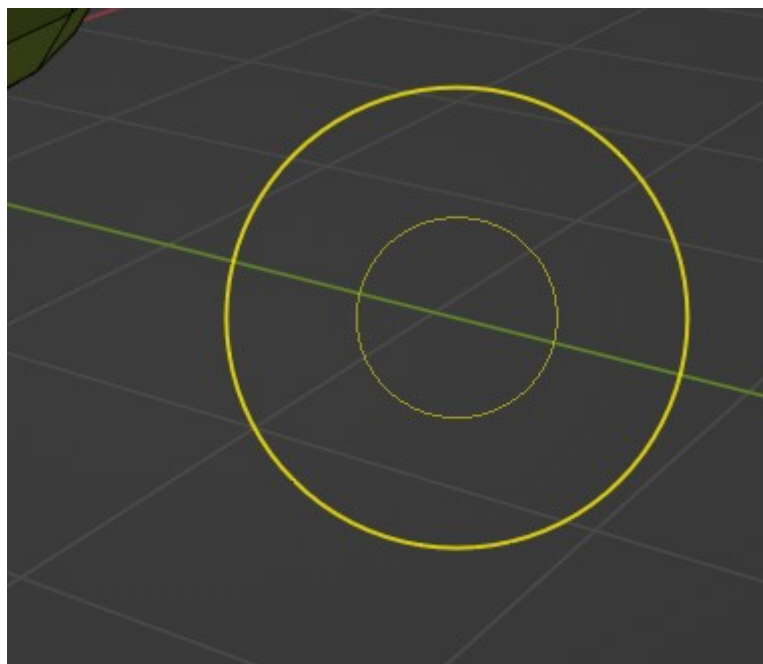
Open the Options menu in the top right and tick on the “topology” setting in automasking – this means only vertices connected to the vertices you are sculpting are affected.

Now if we pull out a vertex, the effect is much more localised: -

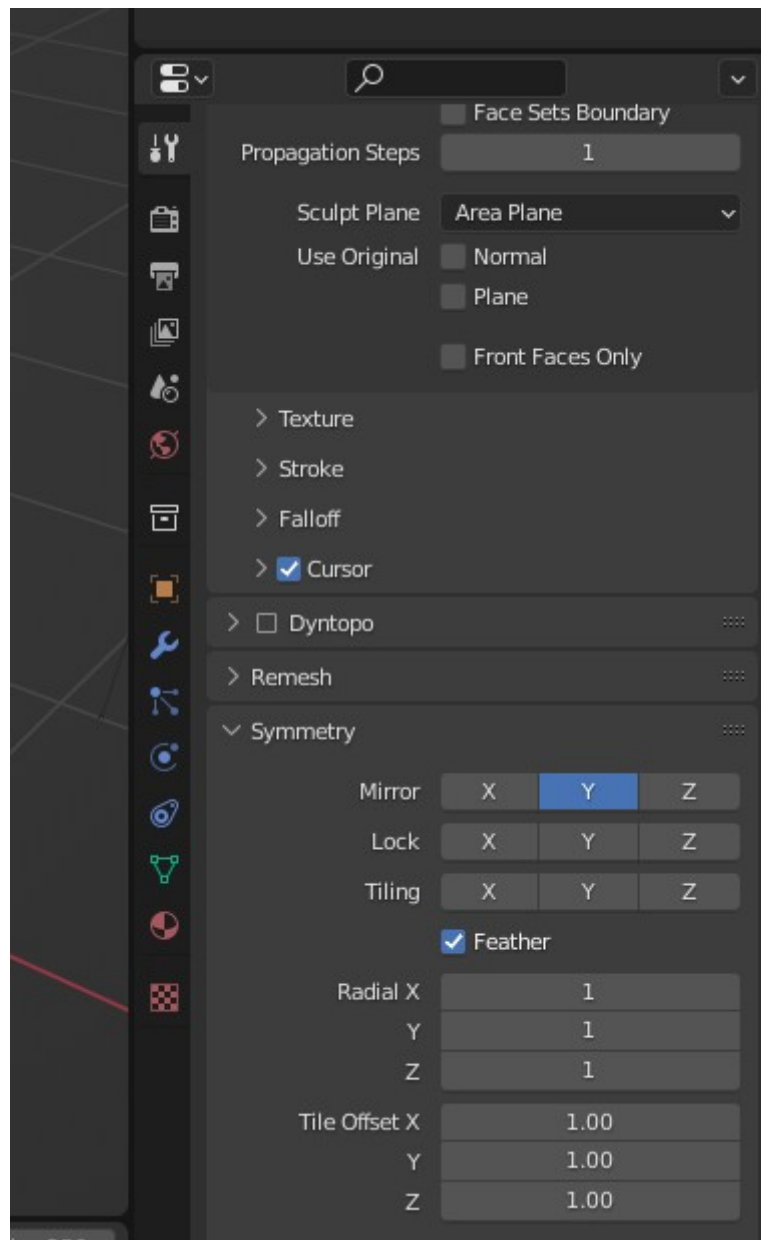


Two last things before we begin to sculpt -

1 you can change the size of the sculpt brush to affect more of an area at once when you need to, by pressing F then moving the mouse to size the radius of the brush (or you can change it the toolbar at the top directly) : -



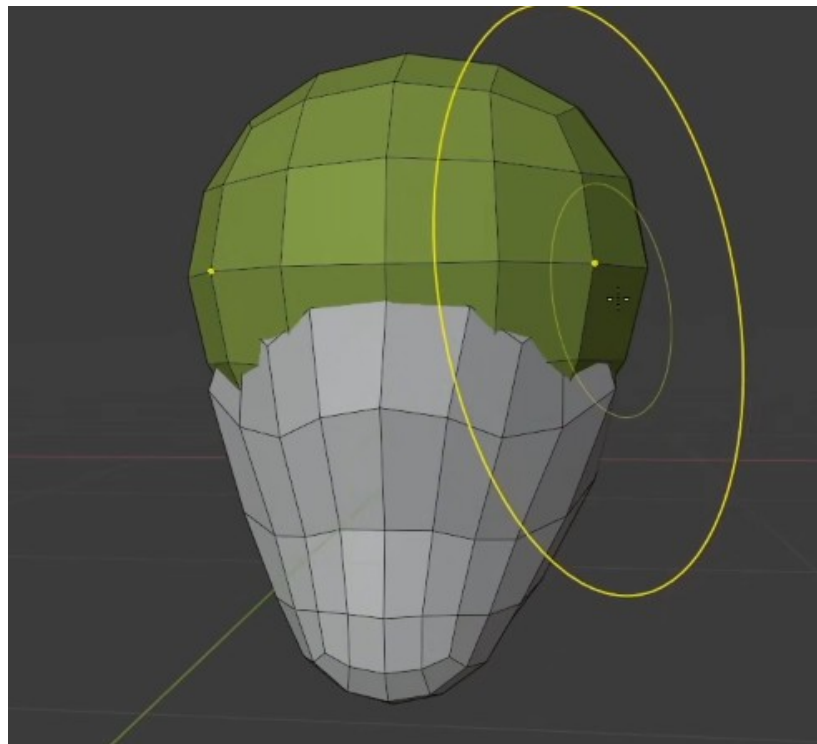
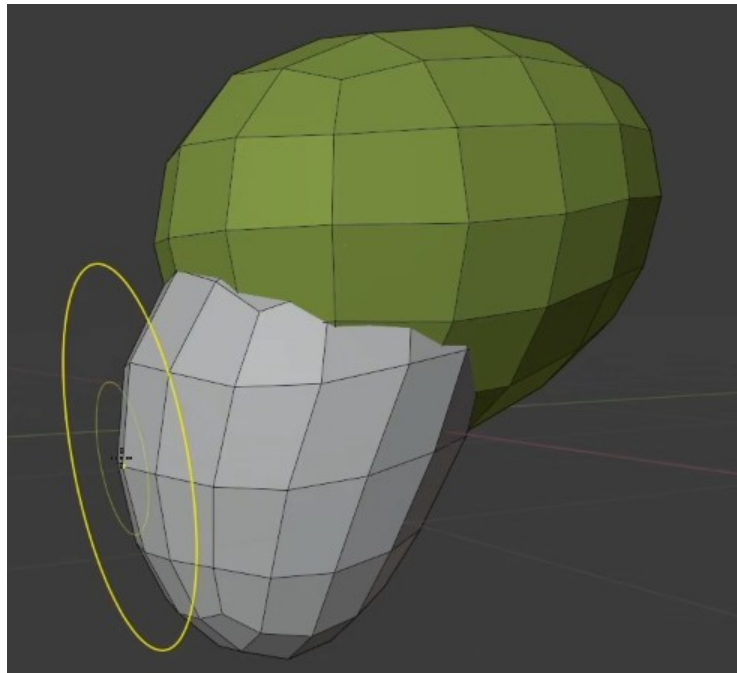
2 We can use a “mirror” function on the tool when working on the left and right to keep a nice symetry going, to do this click the screwdriver and spanner option in the right panel: -



Open the “Symmetry” section (you may have to scroll down to find and switch on “Y” in the Mirror row – this means mirror what you’re doing across the y-axis and in effect it means when you alter the left side of the head, the right side is changed identically.

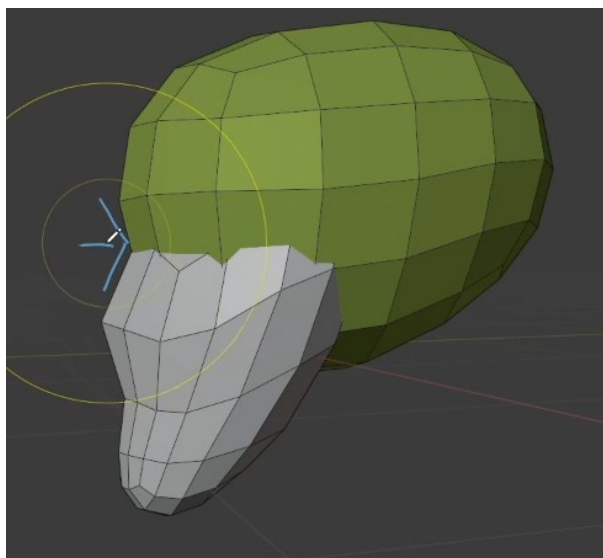
Turn it off when you want to work on non-symmetrical sections like the front and back especially, simply by unclicking the “Y”.

So now begin sculpting by clicking and dragging and try your beside to form a skull shape more human like, something like these: -



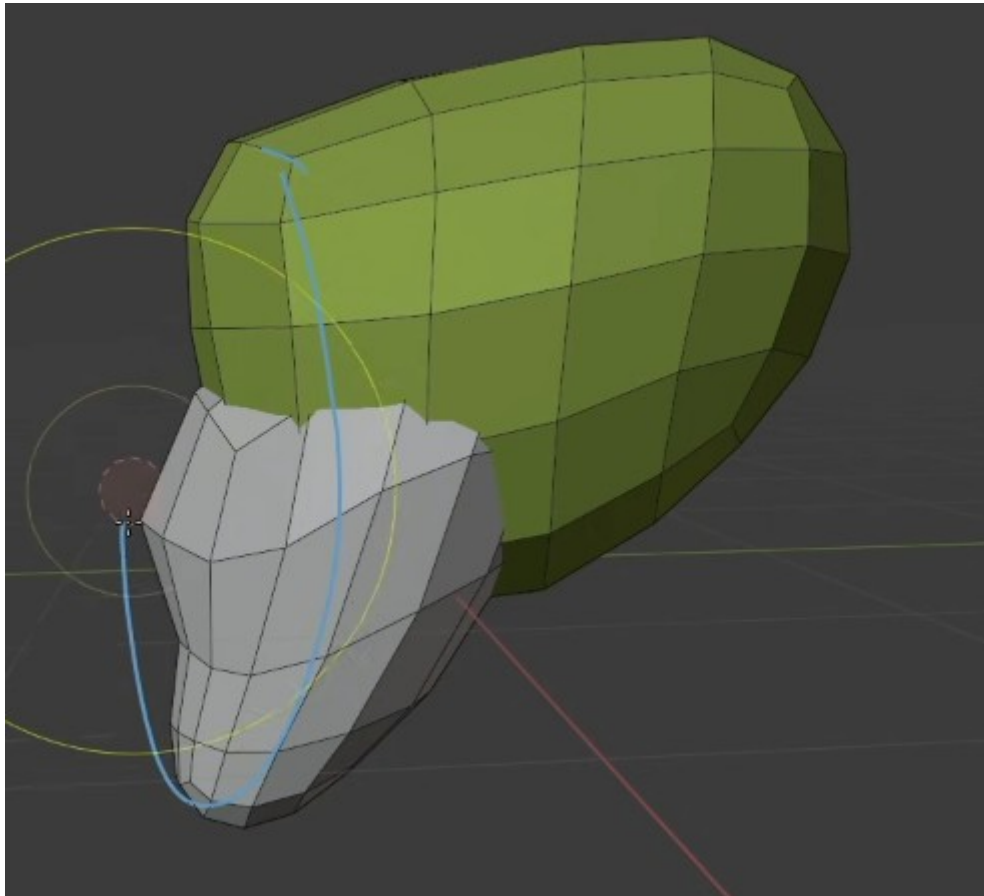
This indicates the eye line  
you should try to achieve:

-





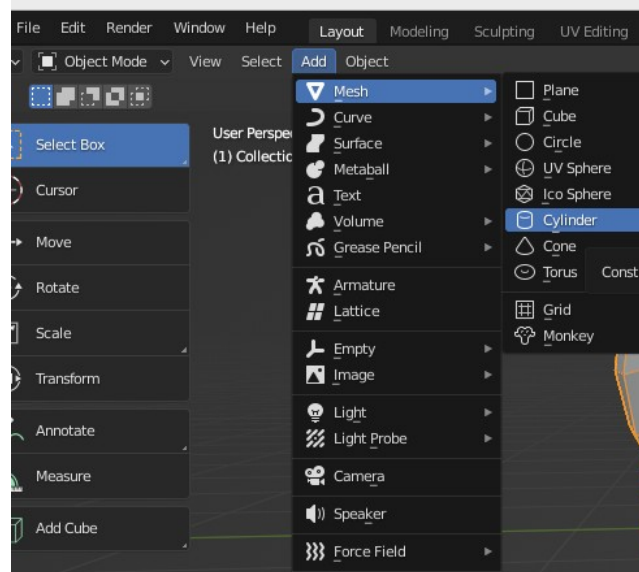
Top of the head flatten, eyeline sharpened: -



Once you're fairly happy that what you have is close to the above, next step is to add a neck.

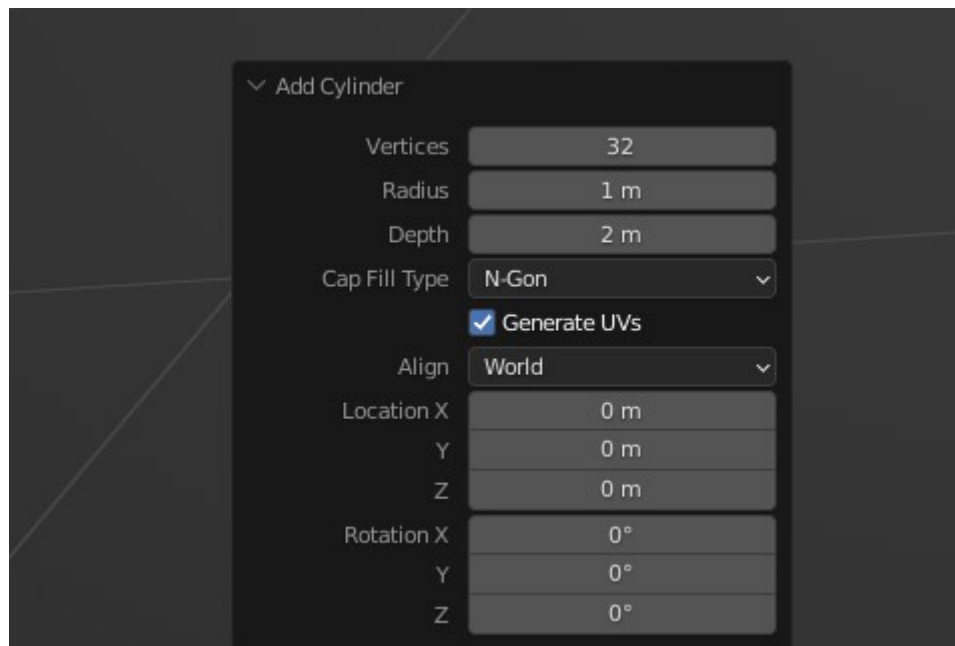
To do this we add a new cylinder to the scene.

Return to object mode and uses the “add” menu to add a new cylinder mesh object: -

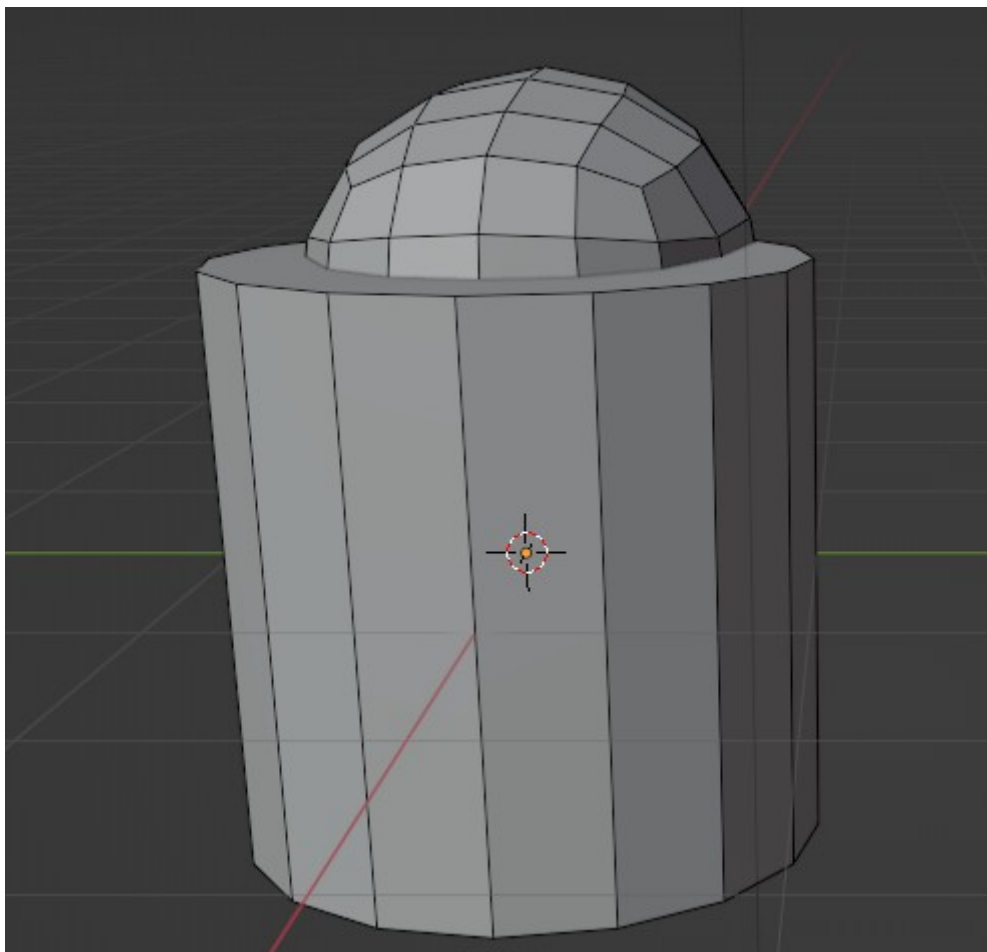


In the cylinder creation popup menu that appears, turn the number of vertices (= to number of sides) down from 32 to 16 as this is a better number of sides for sculpting a neck: -

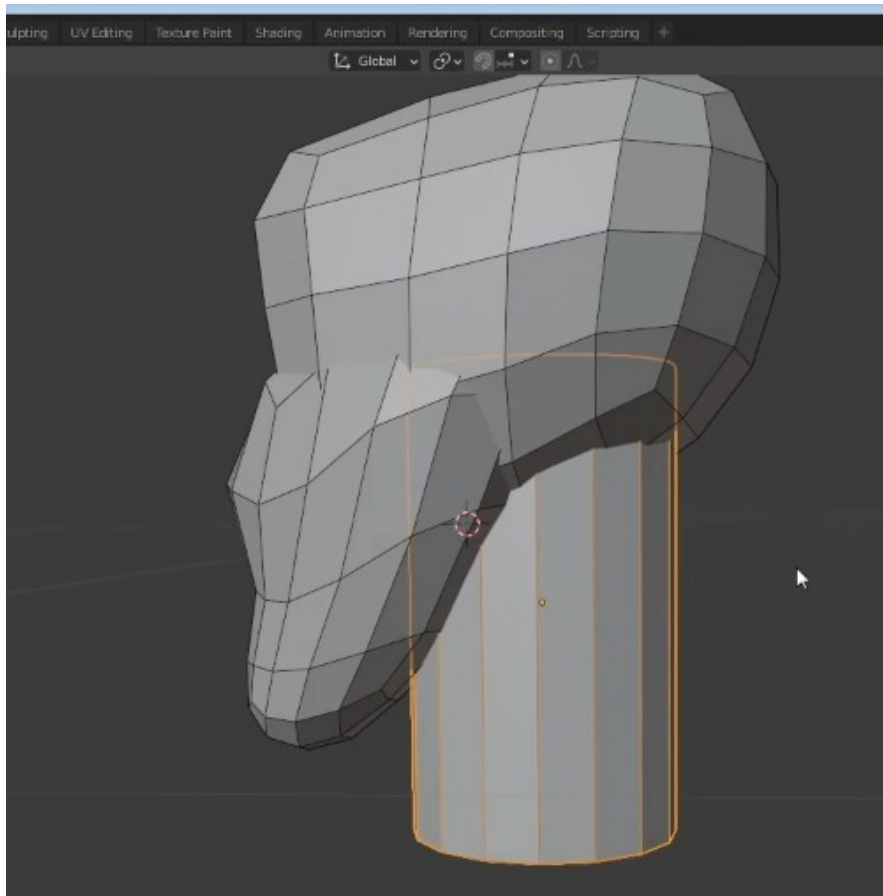
C



As you change the number of vertices, you will see the number of visible sides on your new cylinder decrease. Once you have reduced to 16, click anywhere in the scene and the object creation parameter box will disappear and you have completed adding your cylinder:-



Use “S” to Scale then “G” to move the cylinder into the neck position something like this : -



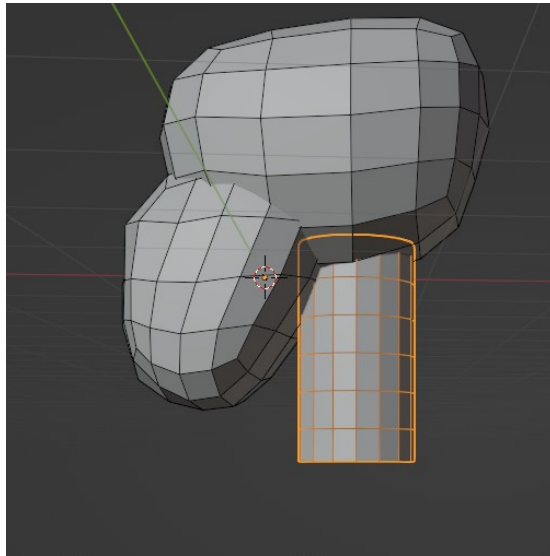
Now, unlike our skull object, the cylinder does not have multiple square vertices on it, each side is currently just one long rectangle. To be able to sculpt it like with the head, we need to use a technique called the **loop cut**.

A loop cut allows you to insert a number of “slices” along an object and that is perfect for what we need here.

With the neck selected, press tab or use the mode box in the top left to switch to **edit mode**. Edit mode allows you to make changes to individual parts of the object in question, i.e. allows you to edit the object directly.

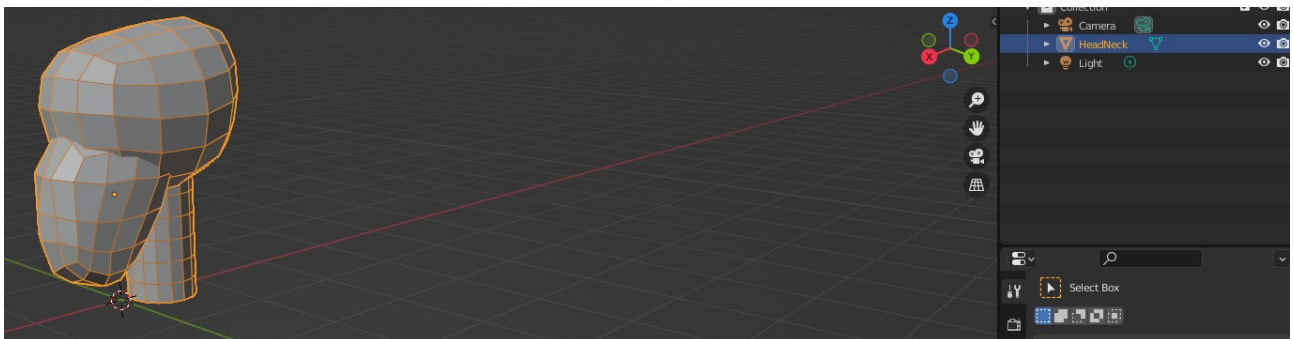
Press “CTRL + R” to launch the loopcut tool. If you now move the mouse over the neck, you will see a single cut to start appear in the middle of the cylinder. Now scroll the mousewheel up and new cuts will appear – add 4 or 5, just enough to make regular near square faces in the neck object. Then click away to place.

Return to Object Mode and you should now have something like this, and we can begin the neck sculpt:



Select both the cylinder and the header objects and use CTRL+J to join them into one object.

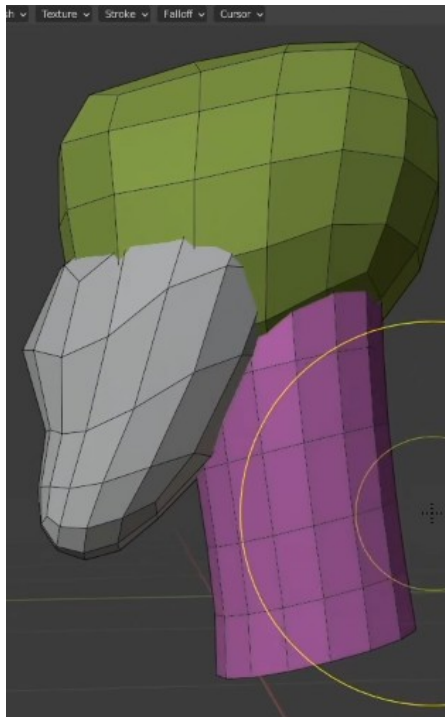
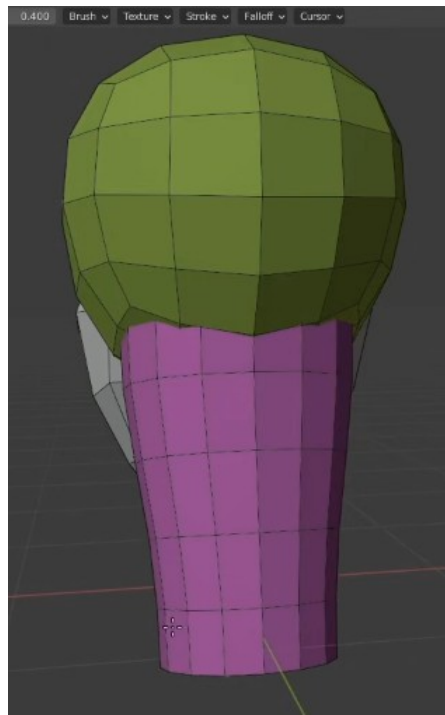
Use “G” followed by Z to move the joined head object up a bit so that the end of the neck is roughly on the floor of the 3d world: -



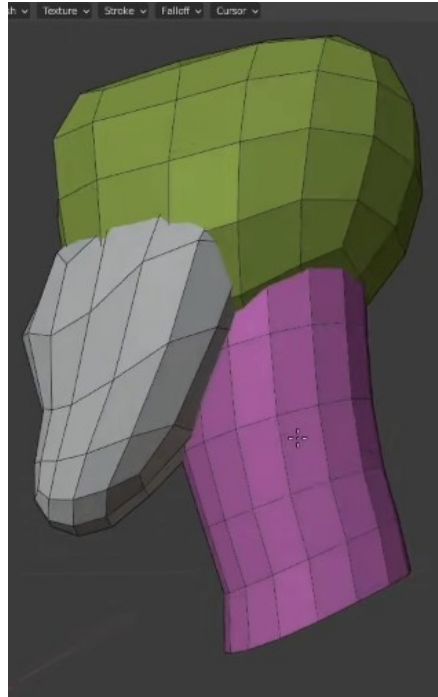
You can also rename the new joined object structure something meaningful – I’ve gone for a literal “HeadNeck” here..

Now enter sculpt mode and begin sculpting the neck. The most important goal is that the neck slopes forward up in to the base of the skull and that it tapers to a little more narrow at the bottom.

Try to achieve something like these examples: -



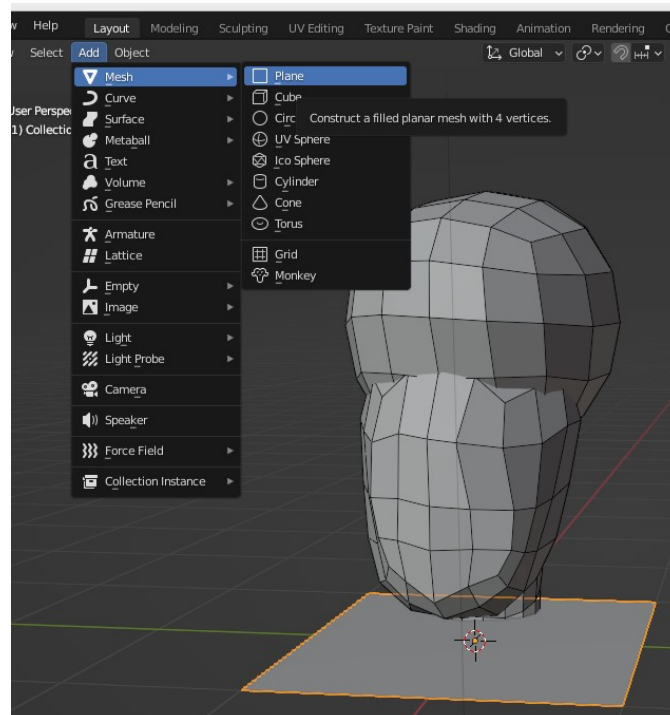




## EARS

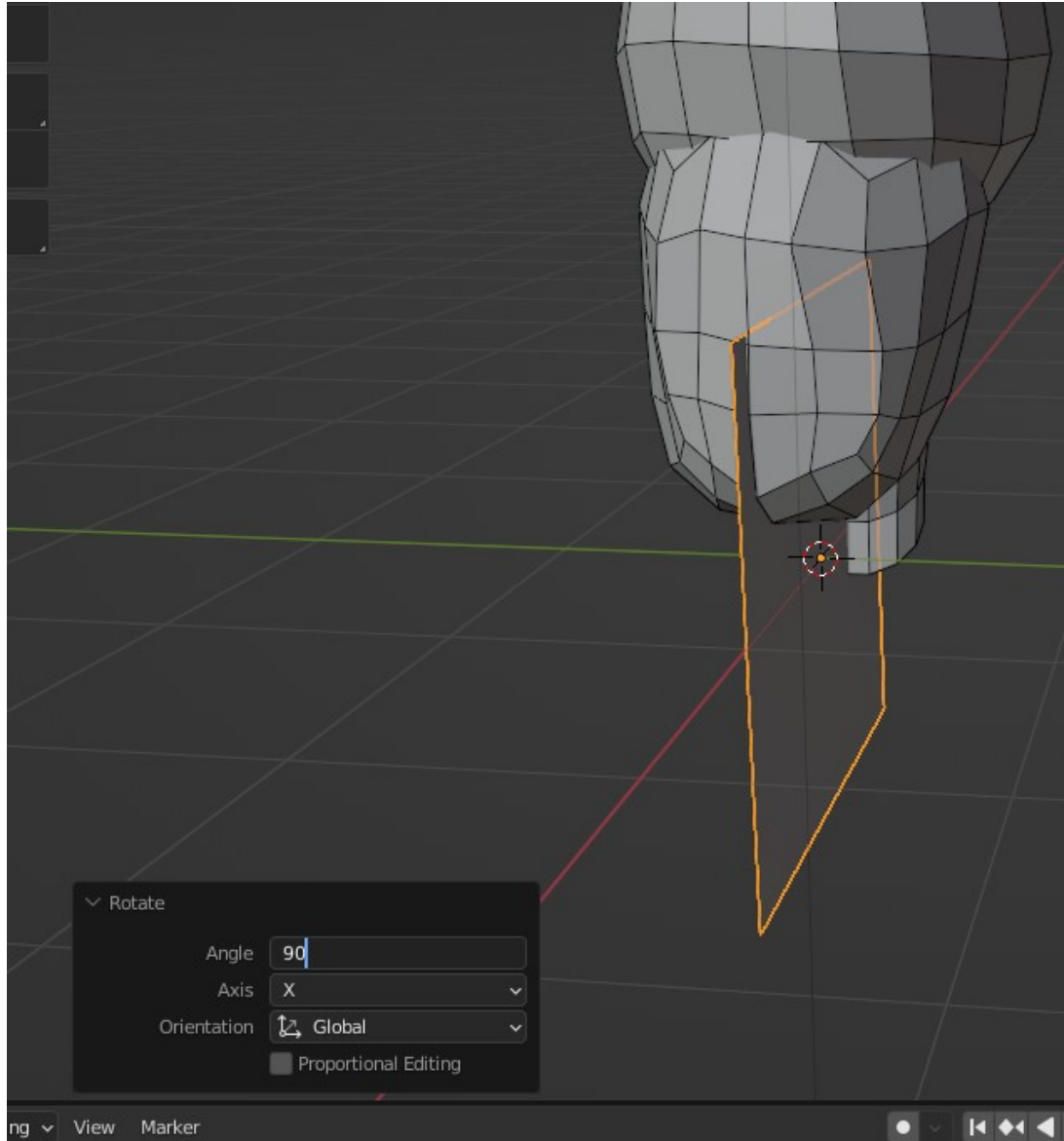
The next stage is to add ears. Now, for most people, ears are identical mirror images of each other so we're going to use a special technique here to work on one ear and magically mirror it on the other side at the same time.

Go to Object Mode and select Mesh > Plane from the "Add" menu:

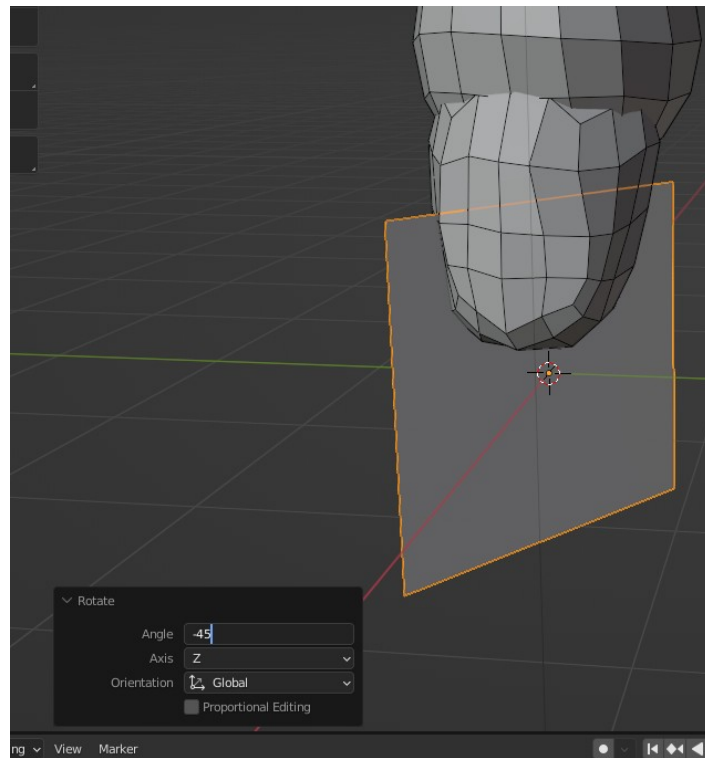


With this new object selected press “R” which is the shortcut for rotation. Then press X so we only rotate on the X-Axis and rotate through 90 degrees so the plane is standing straight up: -

**Tip** – After you complete eyeballing the rotating with the mouse – you can set the angle to exactly 90 if you are a little off by typing it directly into the rotation parameters box before clicking away to complete the rotation transformation.

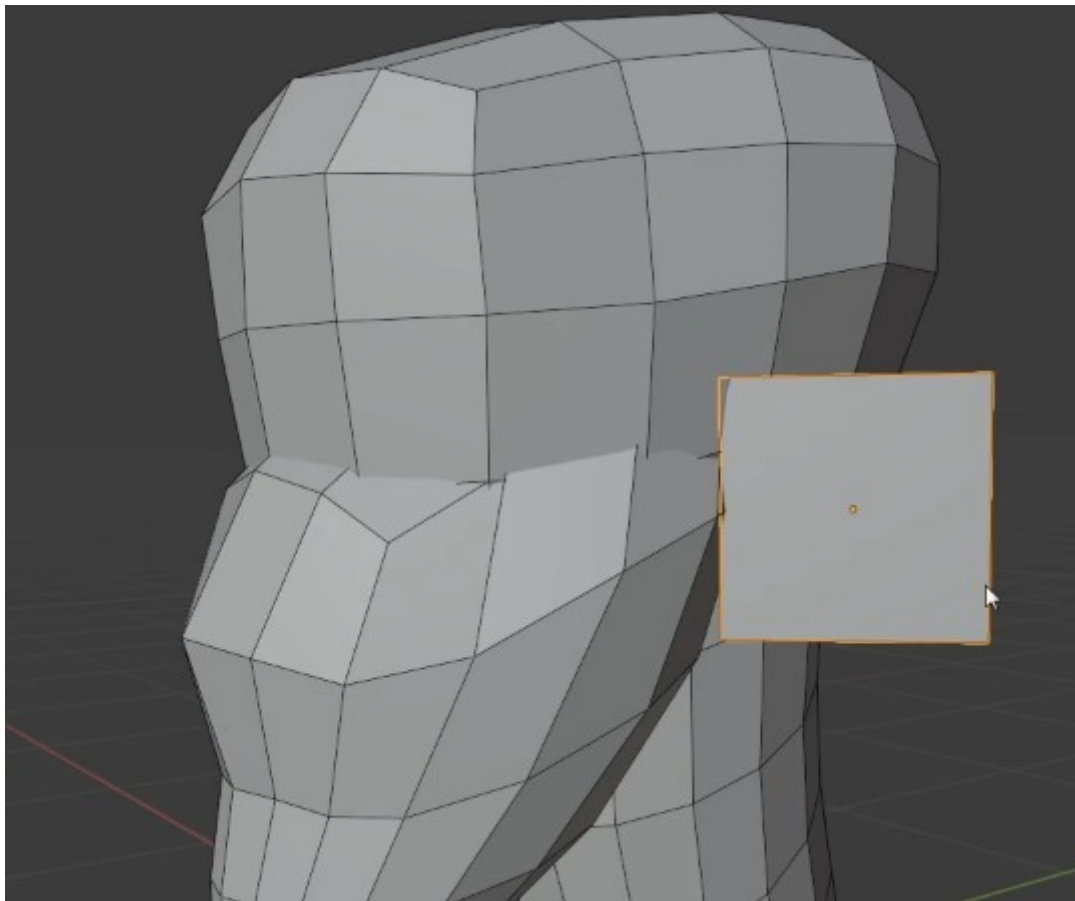


Next rotate the plane back by 45 degrees (minus 45 degrees), this time around the Z axis: -

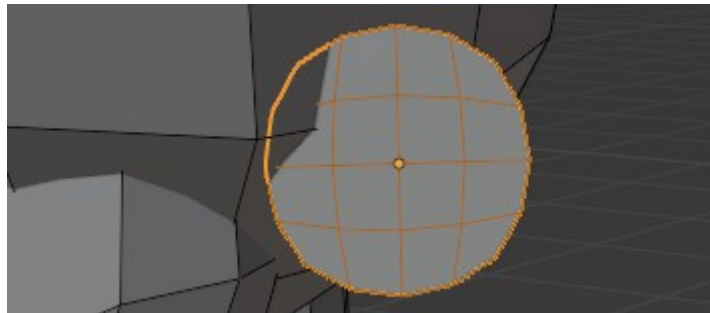


And finally scale it to roughly ear sized and move it in to position where the ear should be (you should know how to do both by now) :-

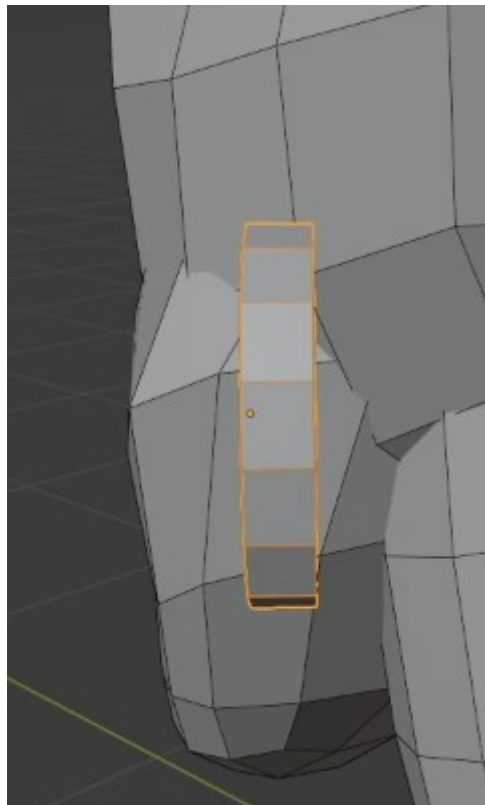
We are looking to achieve something like this: -



Now as we did above add a **level 2** subdivision modifier to make our plane collapse into a subdivided round vaguely ear like shape, remembering to use CTRL+A to full apply the modifier: -



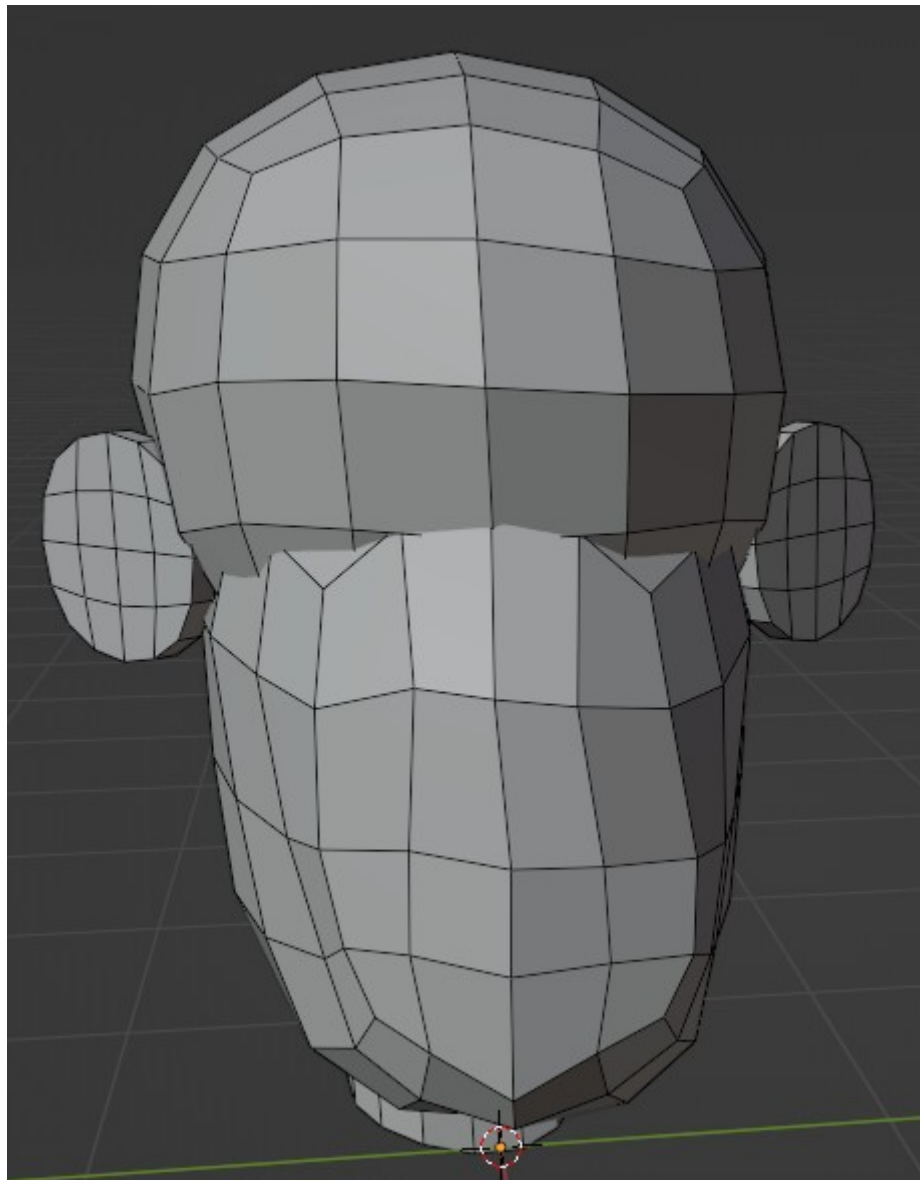
Next we apply another modifier, a new type, this one is “solidify” – it thickens the given surface by a variable amount, increase the thickness slider until you have something like the following: -



And now for the mirror magic, next apply a “mirror” modifier: -

Switch the mirror axis to “Y” and press ctrl + A and select “Apply all transforms”.

You should now have a magic 2<sup>nd</sup> ear reflection. And from now on what you do to one ear is automatically reflected on the other!

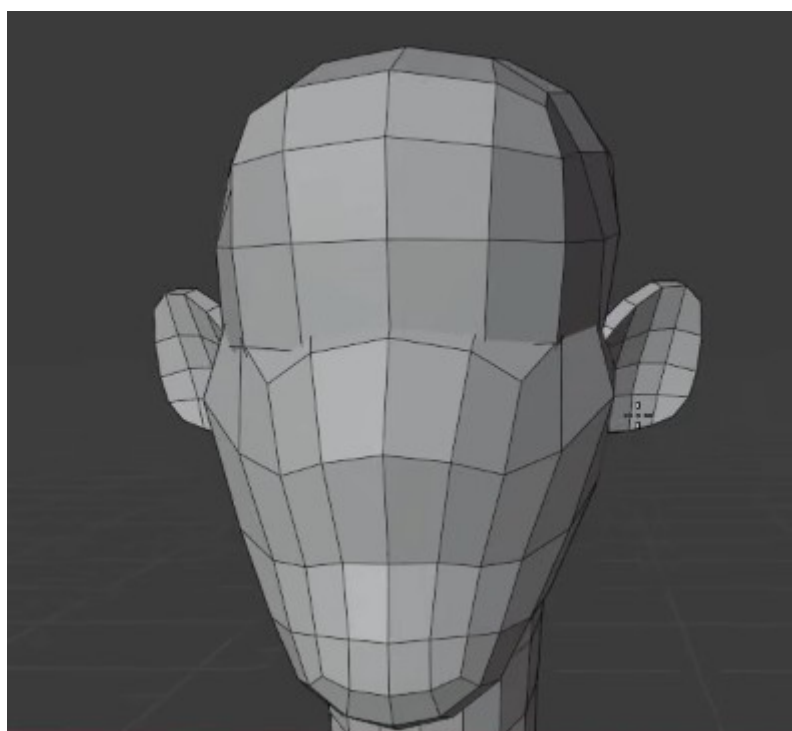
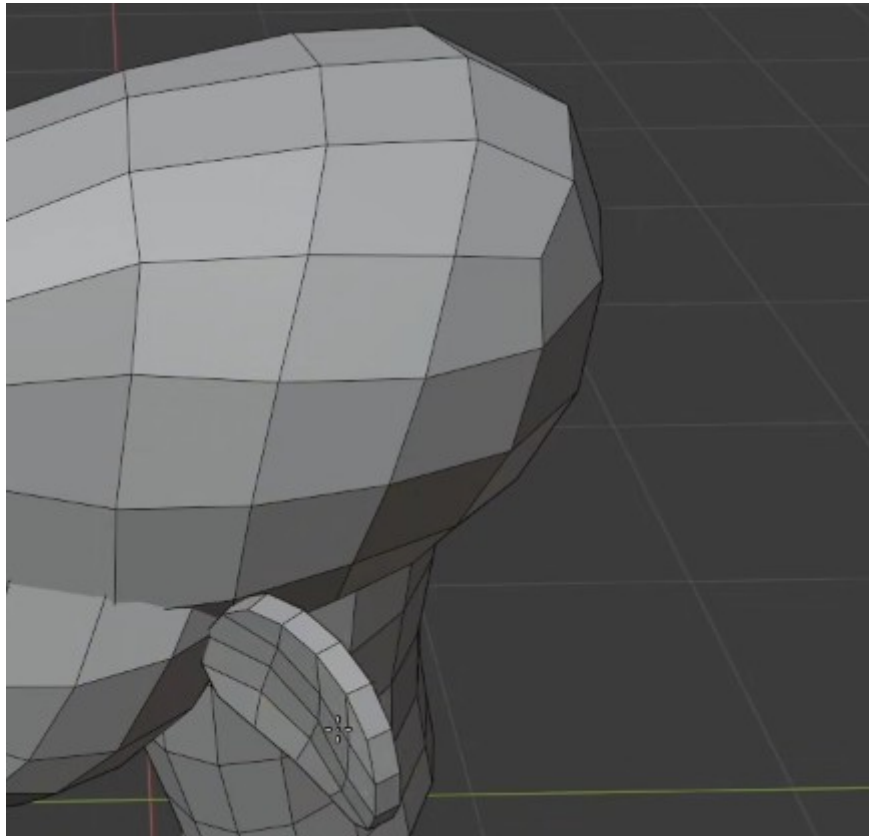




Next it's time for more sculpting using the Grab tool again.

Ears can be very expressive and add a lot of character so have fun with this -

So with the ears selected, enter sculpt mode and make sure the Grab tool is selected, then begin to sculpt along the following lines: -

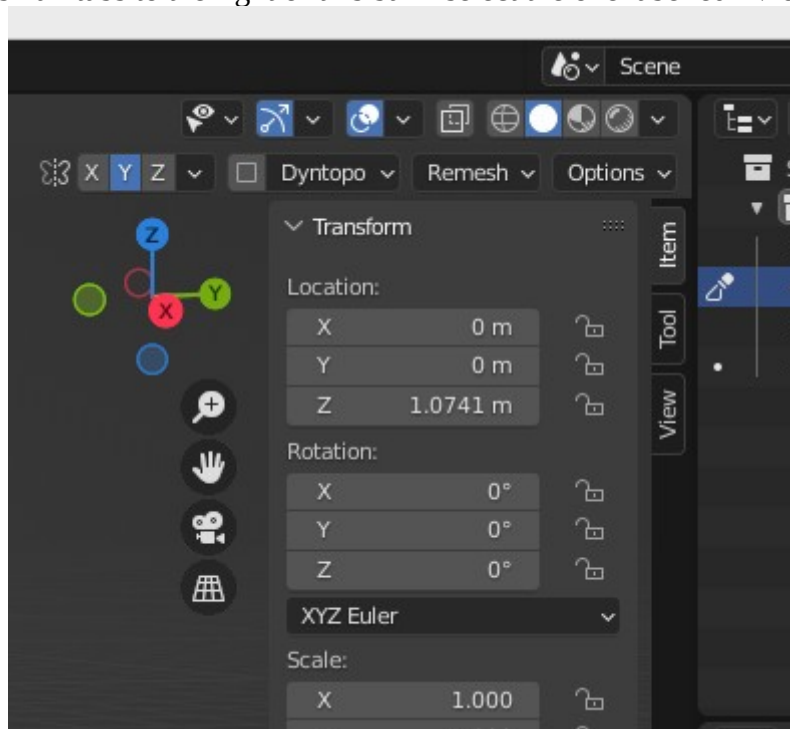


If the grid across your ear, becomes shaky and not regular a protip is to hold **shift** and lightly click repeatedly on the surface – this has a smoothing effect on the grid, just use sparingly or you’ll end up back where you started!

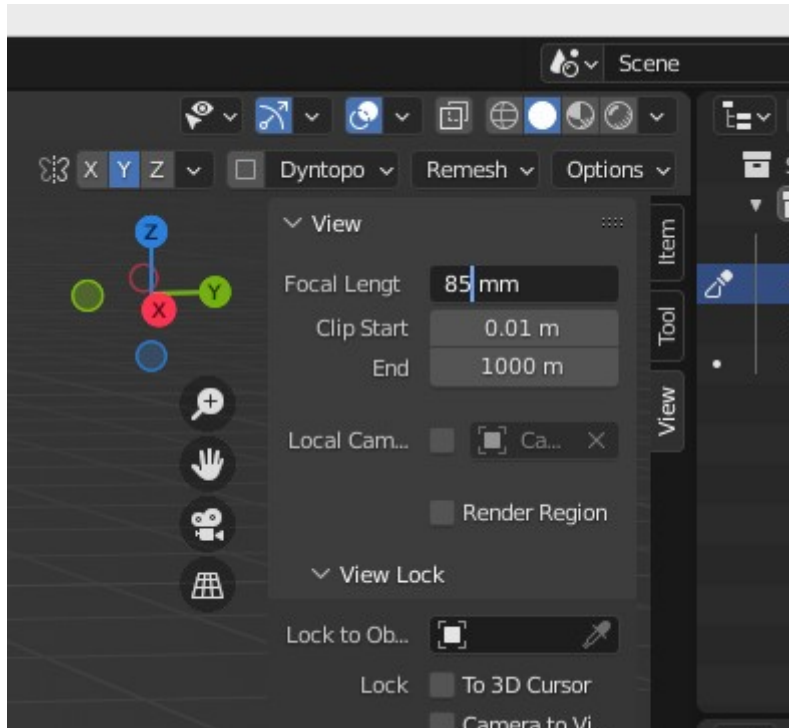
Now as we’re preparing basically a **portrait**, just like a close up portrait photo, we need to change the **focal length** of the camera to get a better portrait type effect.

To do this : -

- 1] Press **N** to bring up the sidebar that we need, you’ll see it popup out on the top right of screen.
- 2] There are three small tabs to the right of this bar – select the one labelled “View”:



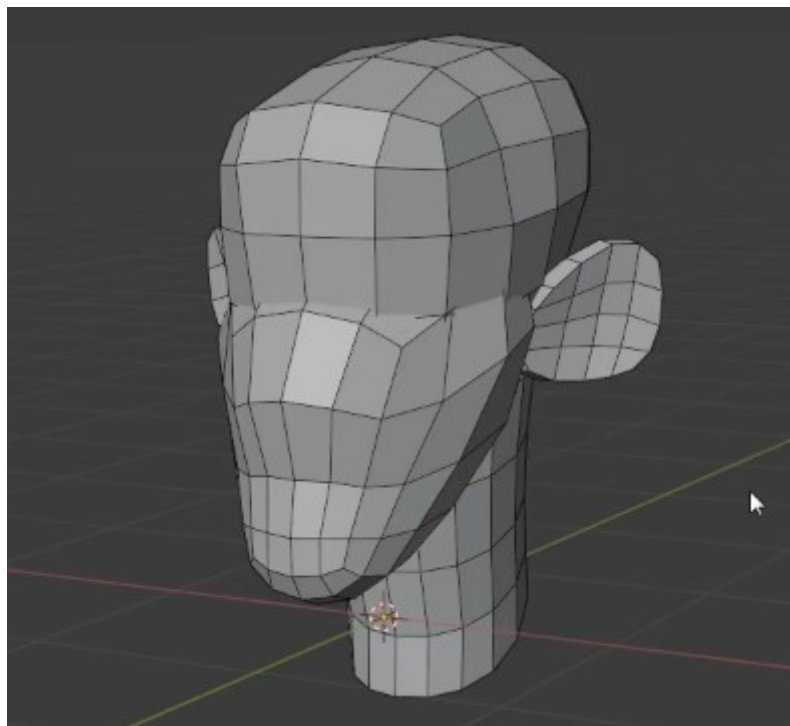
The first field in the view tab is “focal length” – this should be the default 50mm for you – increase it to 85mm for our portrait: -



[Aside from an online google :

85mm lens is just about the ideal focal length for shooting portraits—if you're using a full-frame camera. The 105mm is also a good focal length to shoot portraits with, as is the 135mm. The longer the focal length, the more compressed and therefore realistic your portraits appear to be. On the other hand, the shorter the focal length the more distorted and therefore weirder your portrait images tend to look.]

Now make sure all the ears modifiers are applied then join the ears to the head, again using Ctrl+J and renaming the resulting object if you wish, and we have the complete basic head all done!

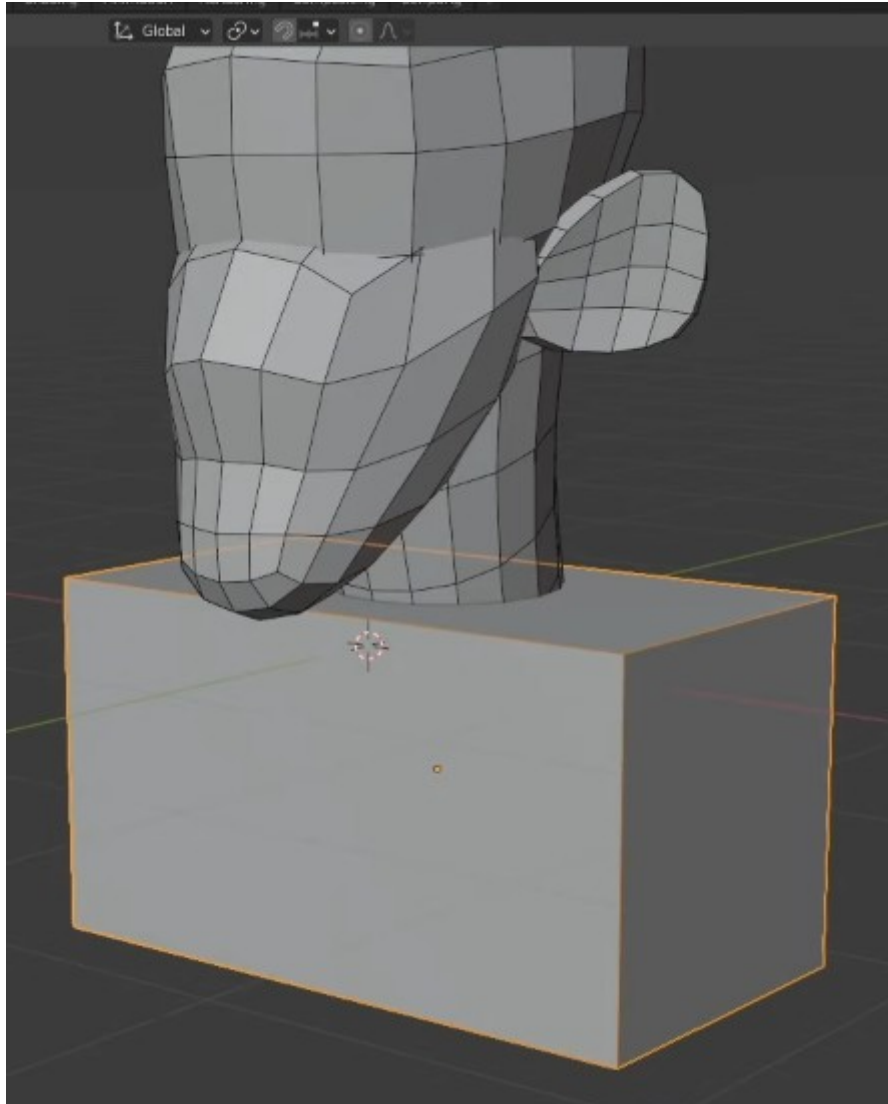


## TORSO

The final part of the body of our portrait character is the torso basically shoulders, top of arms and chest.

We begin by using add > mesh > cube to add a new cube in object mode.

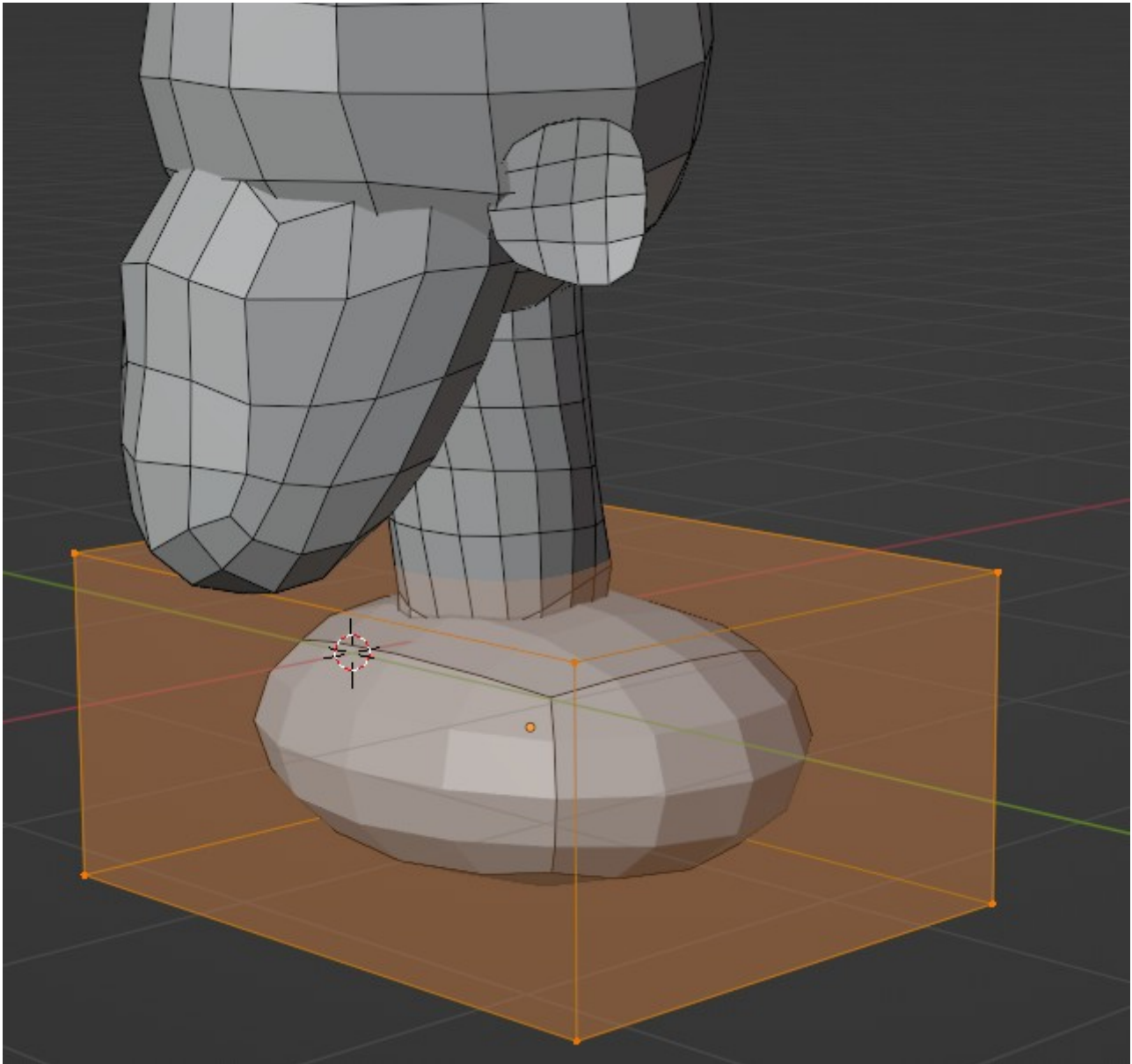
Then scale it and move it into roughly torso position and size something like this: -



Press Ctrl + A to apply the scale transform completely – then once again add a subdivision surface modifier level 2.

Now we'll use a slightly different technique to sculpt here – **without applying the subdivision modifier yet** and with the torso object selected, switch to edit mode (the shortcut key is “tab”)

You should see something like this :-



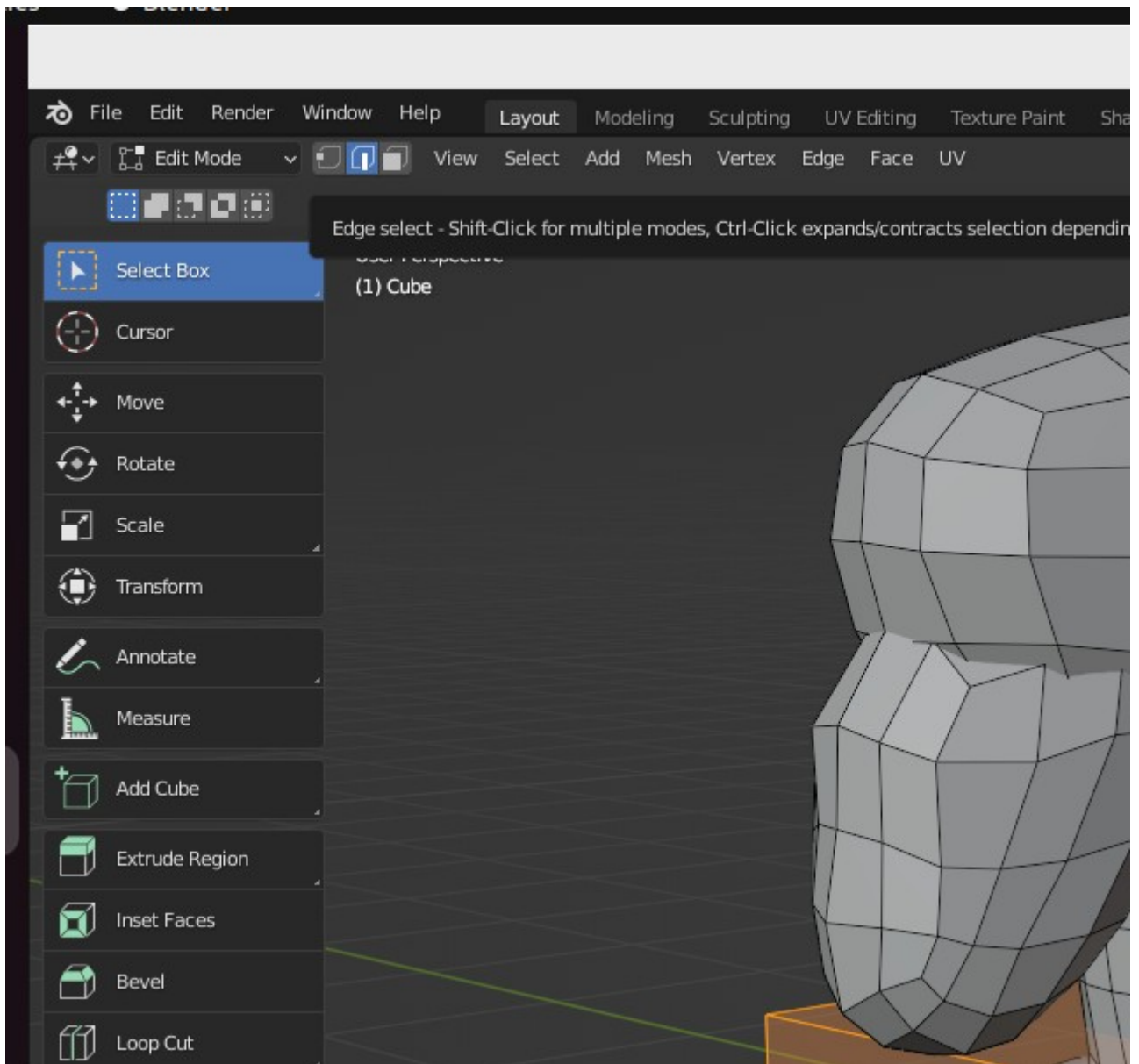
The reason there is a phantom orange box showing is because the modifier has not been fully applied yet and the object technically is still the original cube, which is what is showing in orange.

A neat trick now is that we can modify the subdivided object simply by moving edges of the cube!

Edit mode allows you to select parts of the object being edited in 3 ways: -

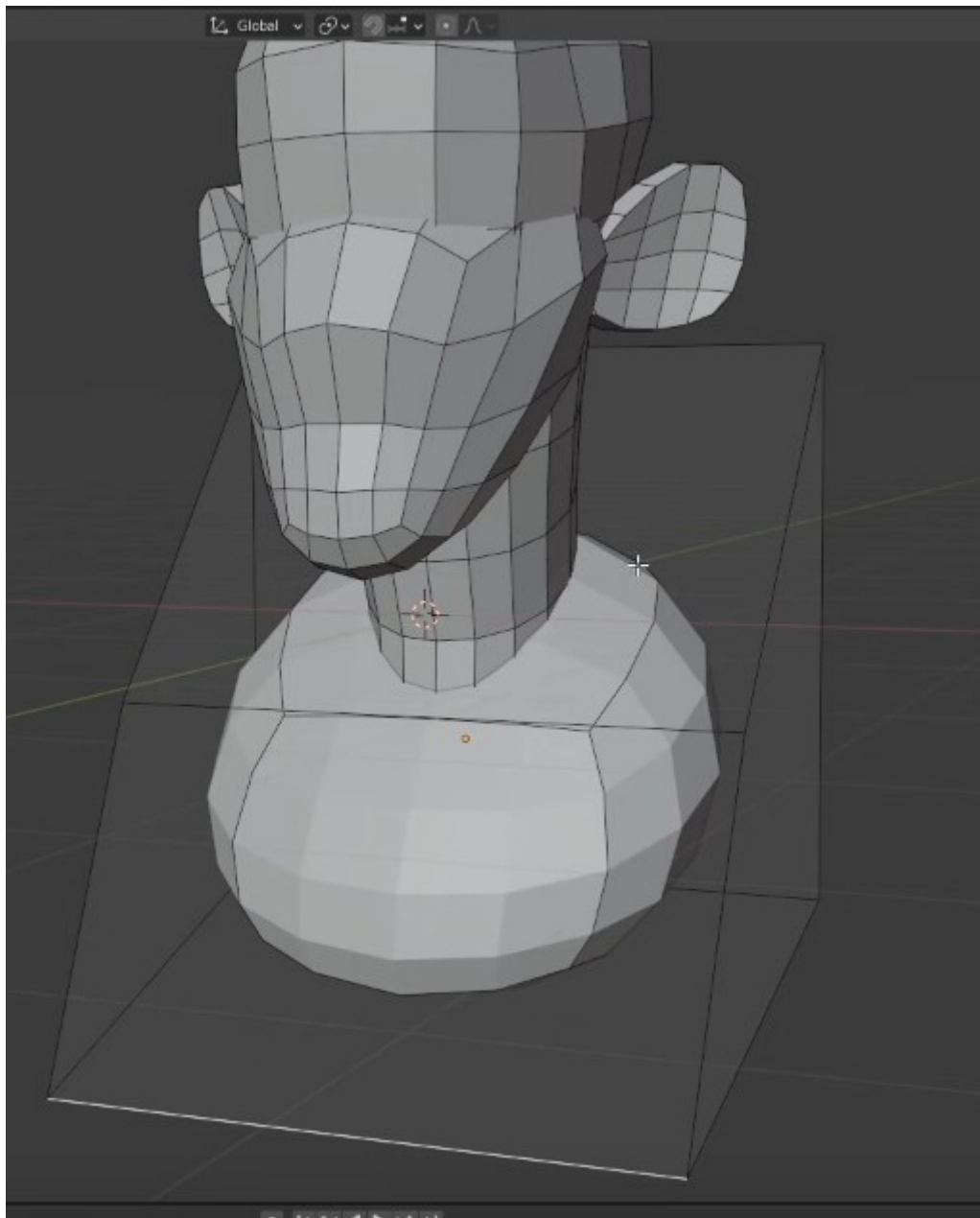
- 1 – individual points also know as vertices.
- 2 – Whole Edges
- 3 – Whole Faces.

We want the second one, edge selection here – so we activate edge selection by clicking this icon in the top left: -



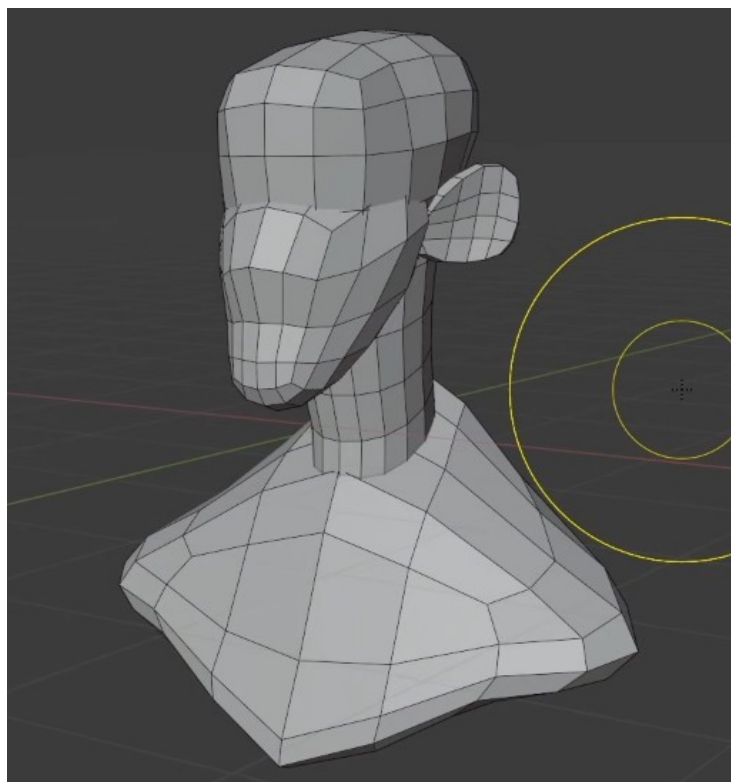
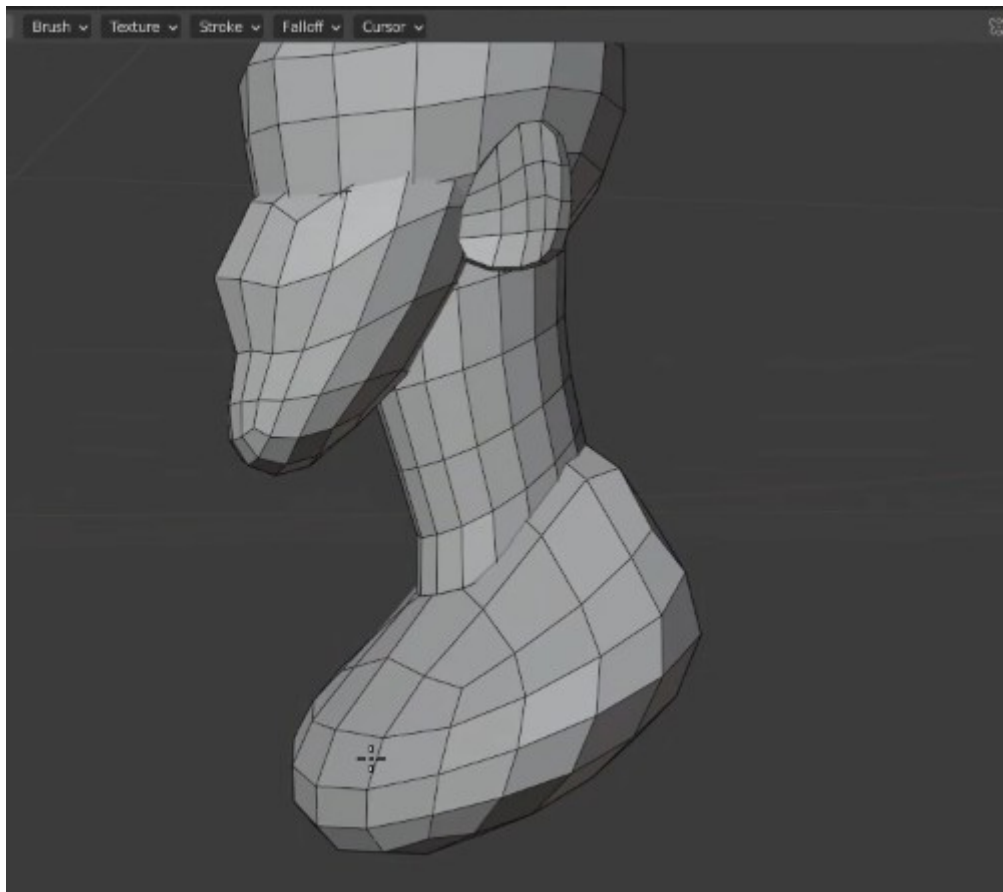
Once that is selected, click and select edges of the original cube, and press G to move them to new positions so that the subdivided shape gradually becomes a rudimentary chest and shoulders, you should aim for something along these lines: -





Finally use scale to widen it a little if necessary then finally apply all modifiers.

Now enter sculpt mode and once again use the grab tool to apply some more realistic human anatomy shaping – using the following as a guide and again make use of the mirror symmetry technique when working on left and right: -



Once you're happy join the torso to the head object to complete the entire character anatomy.

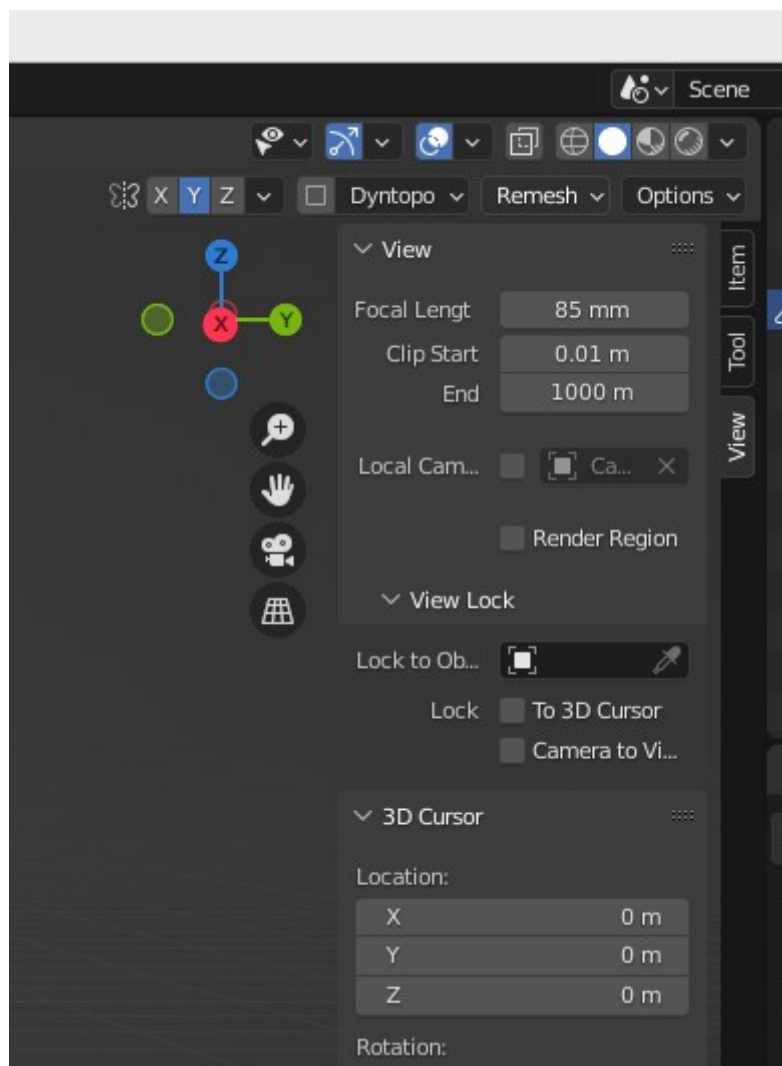
## RE-MESH PHASE:

Now we have our basic form, it's time to perform a process called re-meshing that allows us to recreate the wireframe in much finer detail and after this is done this will allow us to smooth out and fine adjust the sculpt much less coarsely.

Depending on how small you go, re-meshing can introduce a very large number of vertices and how far you can go and still have blender responsive and usable depends very much on the graphics capability of your PC, particularly whether you have a dedicated gpu etc and so you will have to experiment in your own case to find the smallest level you go to.

To re-mesh we do the following: -

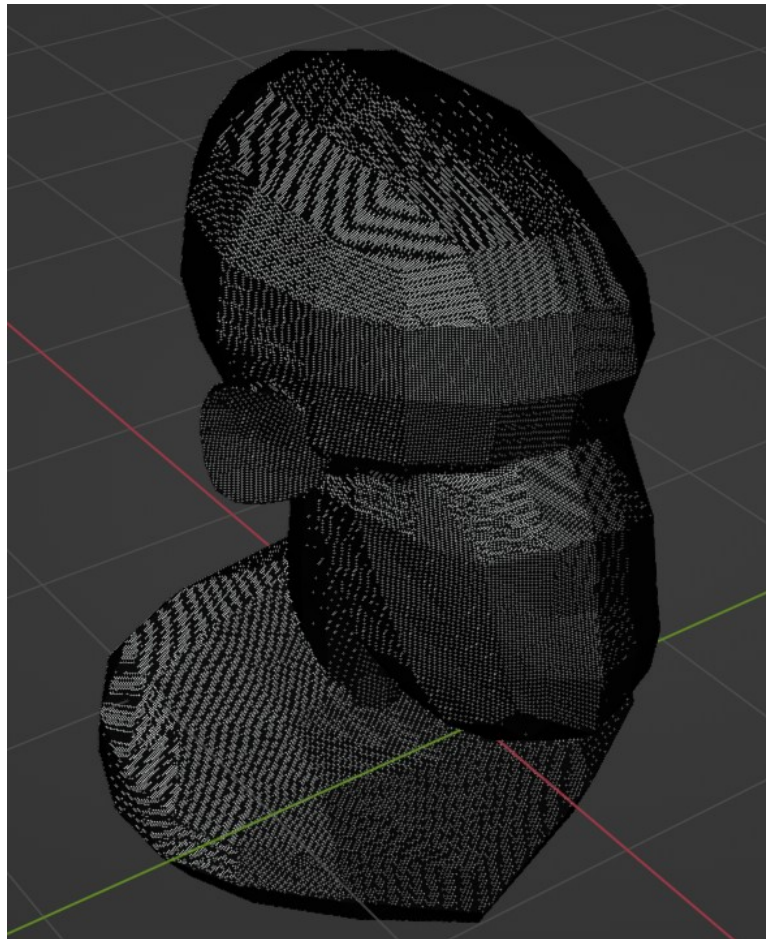
In Sculpt Mode, select the "Remesh" menu dropdown shown in the top right: -



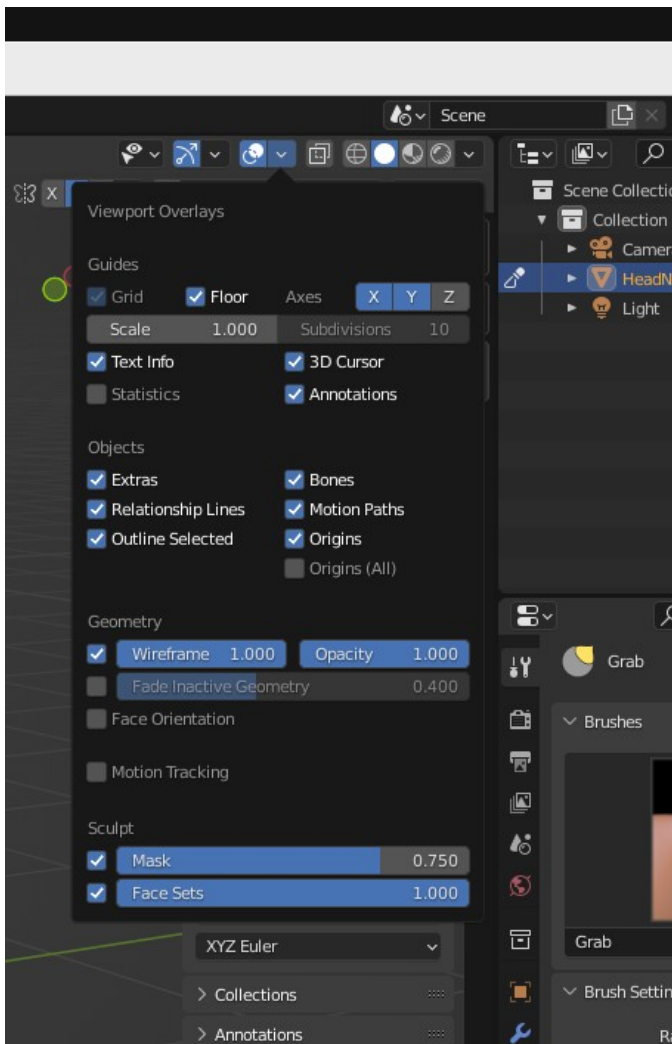
The first parameter “Voxel Size” is what we want to adjust. Reduce this from the default 0.1M to a much lower figure and as above how low you can go depends on your graphic capabilities. Once you set the new Voxel size you click “Remesh” to apply your new mesh. This will also apply a new mesh to your entire joined object as a whole intelligently, so everything across all the joined object.

You can always redo the remesh as with all functions by hitting CTRL+Z so a good way to proceed is to try a mesh size and see can you orbit the new wireframe without the computer stuttering – if it's now too detailed just CTRL+Z and increase the number a little bit.

On my PC [one of the Coderdojo Mac Minis], I first tried a remesh of 0.01M and drew it but I could no longer orbit without long pauses and it was basically uncontrollable: -




But now as there is so many vertices, we no longer need the wireframe at this point – so you can stop it being drawn by unticking wireframe here : -

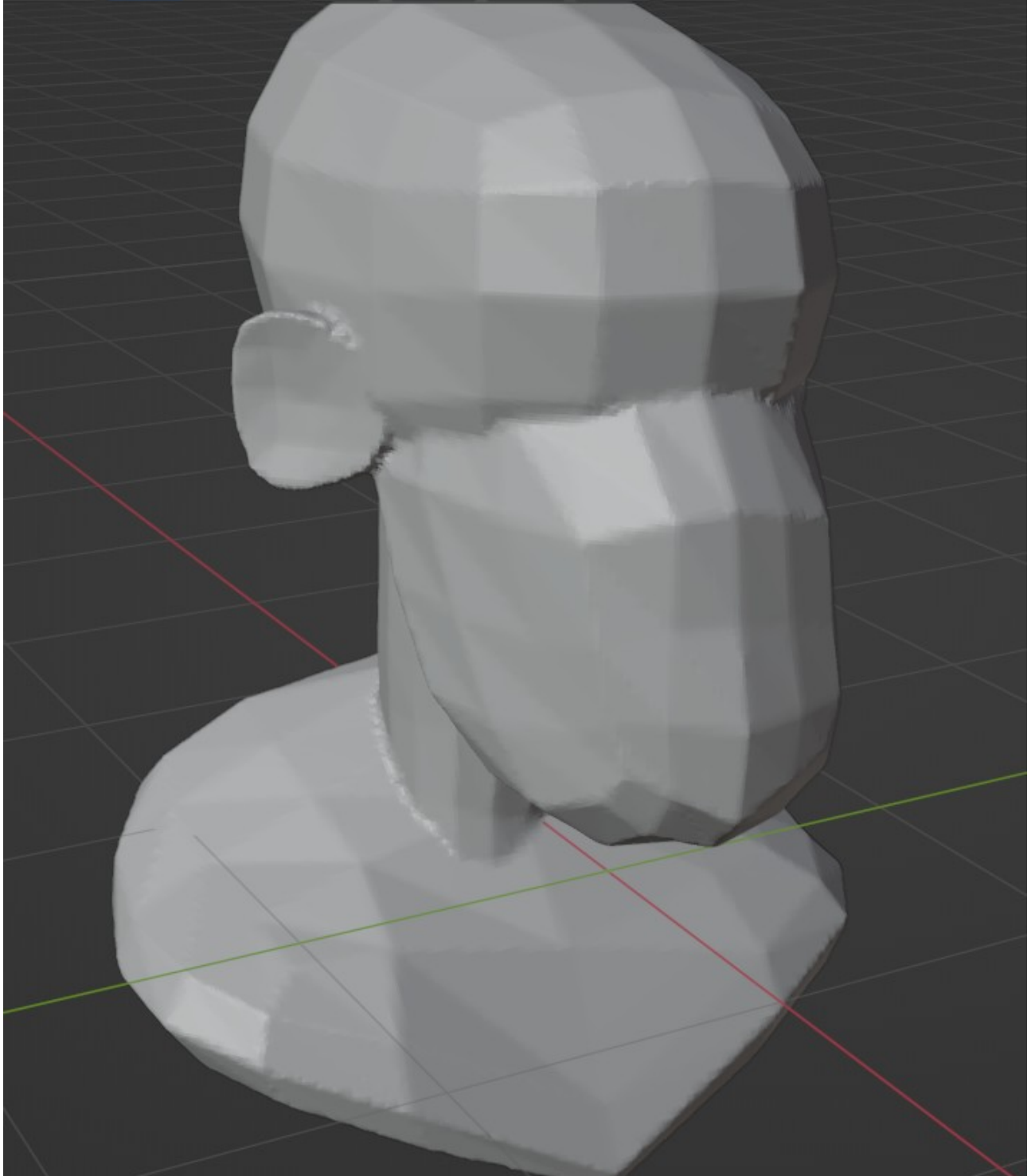


And I found that once I had turned off the wireframe, the object was ok to orbit and sculpt once again: -

Layout Modeling Sculpting UV Editing Texture Paint Shading Animation Rendering Compositing Geometry Nodes

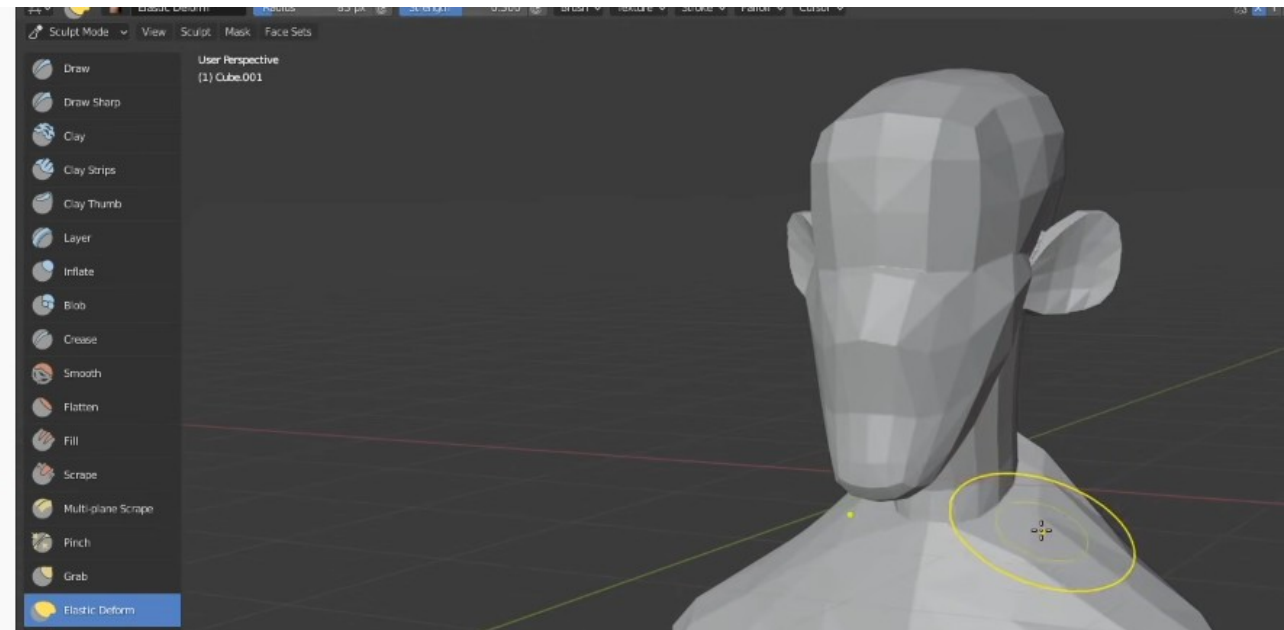
Face Sets

109 px  Strength 0.400 Brush ▾ Texture ▾ Stroke ▾ Falloff ▾ Cursor ▾





Once we have remesh, we can use a new sculpt brush “Elastic Deform” to continue to adjust the sculpt – as there are now so many vertices using the grab brush at this point is very destructive. Using elastic deform you can more delicately pull out the chin, adjust the ears, adjust the headsize etc :-



## Smooth Shading:

Now once you're happy with final posing of your character's basic form, we can begin to smooth out the polygons gradually by using a technique that is available from any sculpt brush. “Smooth Brush” works when you press “**SHIFT**” as well as mouse-clicking. Instead of the usual brush, it performs a smoothing operation within the yellow ring.

Use this now to work around your character and gradually smooth out all those polygon faces, go fairly easy and try not to overdo it, or your character can lose too much form.

Once finished it should now look a bit like this at this stage:-

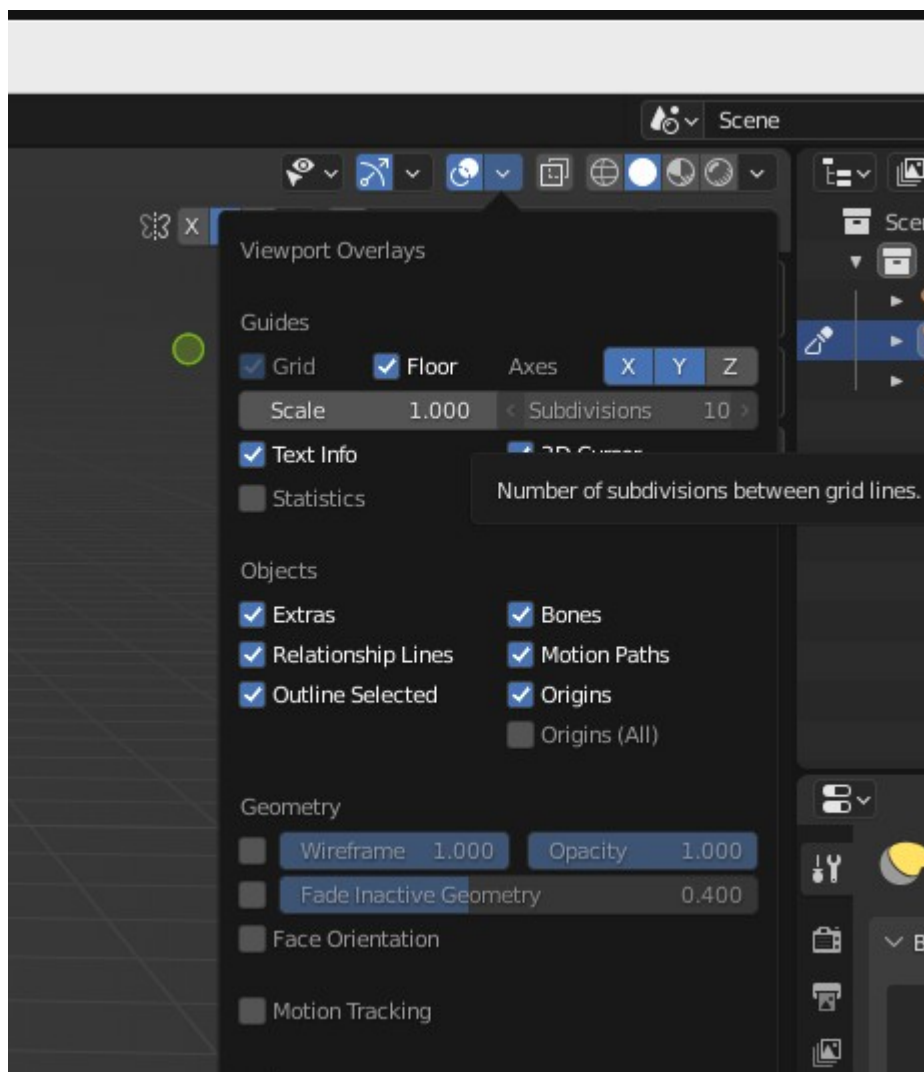


## EYES AND EARS

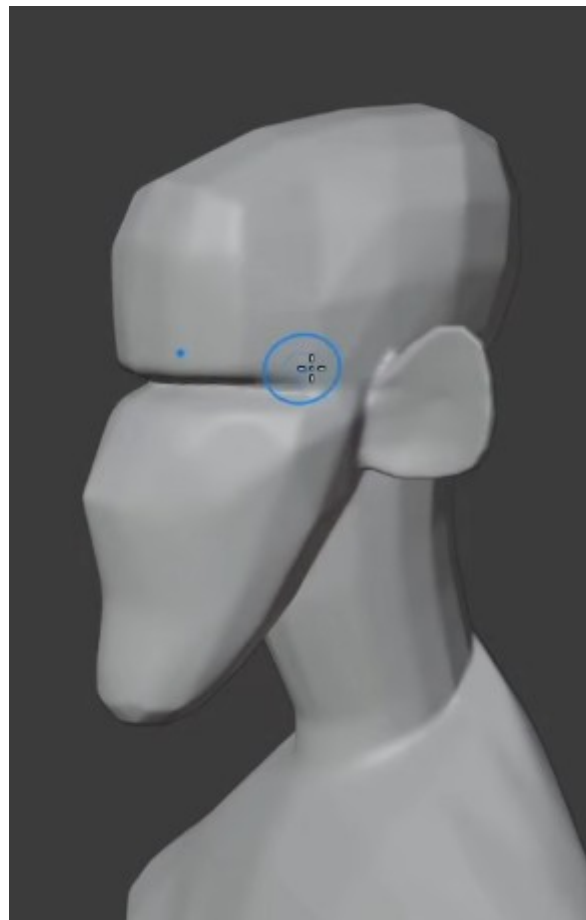
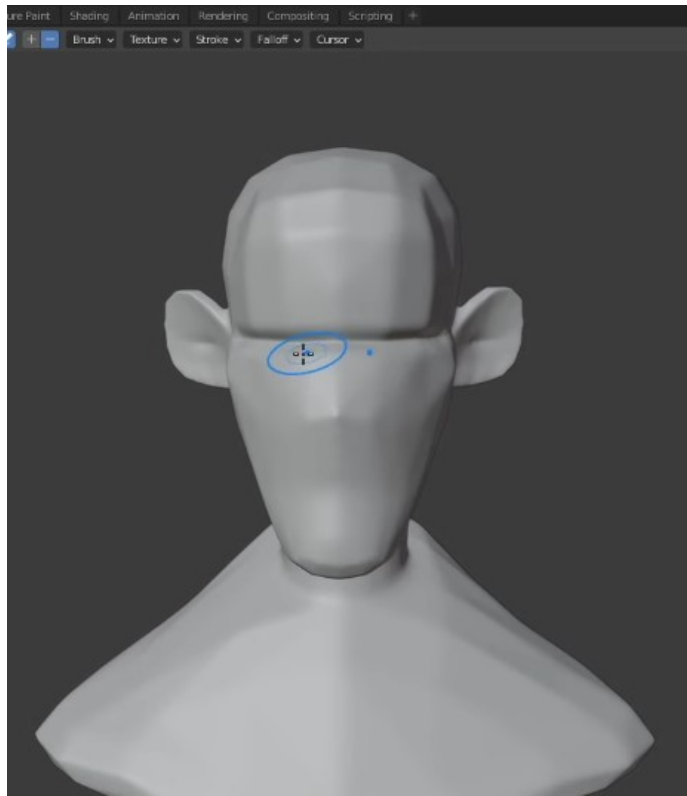
The next stage is to finalise the ear detail and add the eyes.

Firstly we can turn off the display of the floor and the axes at this point, as we no longer need them now and from this point they are distracting: -

Unselect them here, in viewport overlays options: -

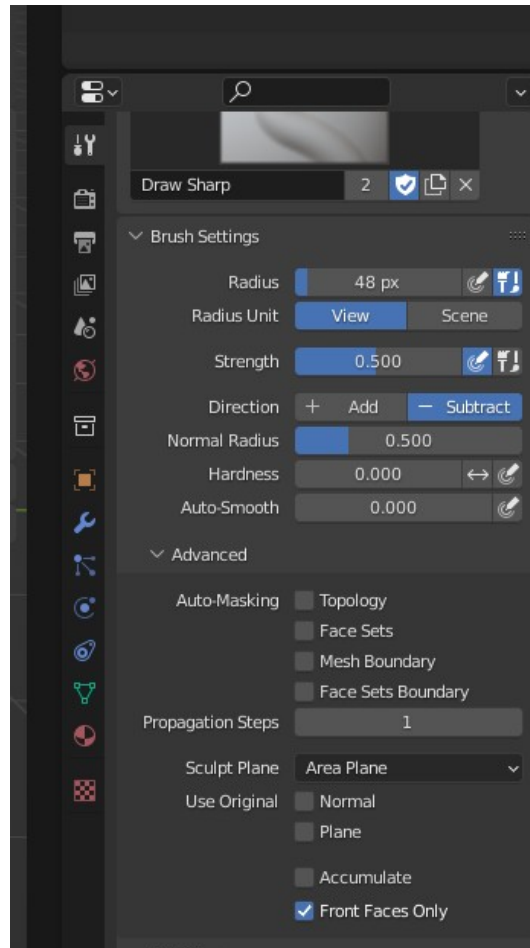


Now, select the sculpt tool called “Draw Sharp” and use this to carve a strong eyeline from ear to ear, it should look this: -

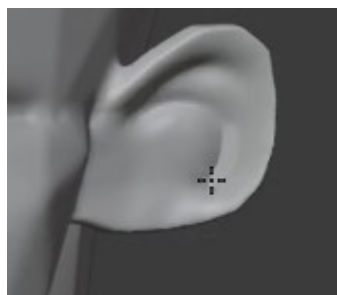


We're also going to carve in some inside ear features next, but because the ears are quite thin, this can affect the back of the ears also and we don't want that, so to protect against this we can make the following change : -

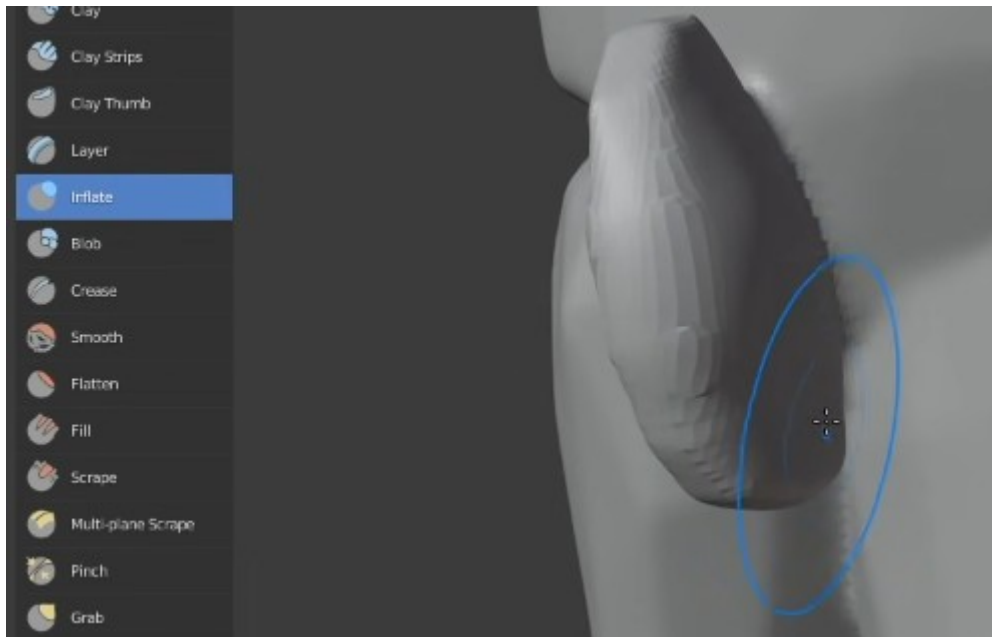
With the Draw Sharp tool still selected, open the “tools” options panel on the right and turn on “front faces” only in the advanced section: -



Now use the Draw Sharp tool to add a couple interior ear features something along these lines: -

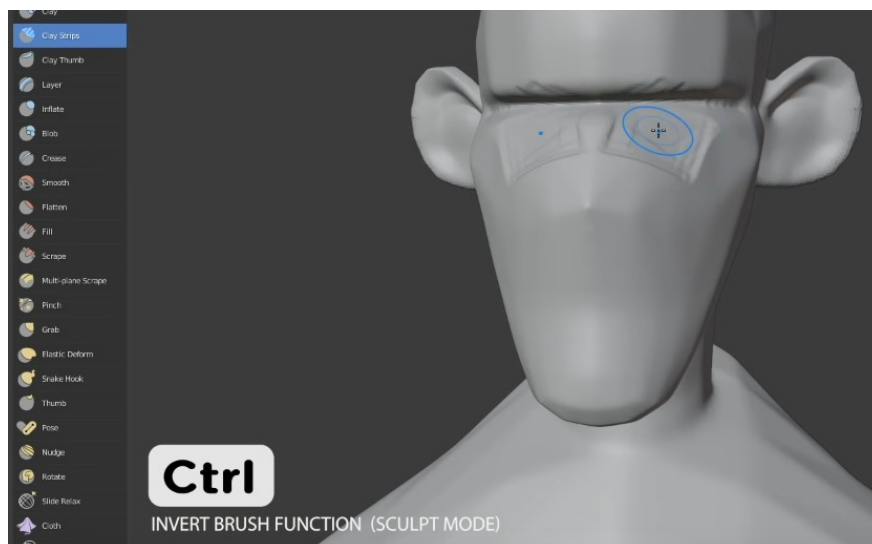


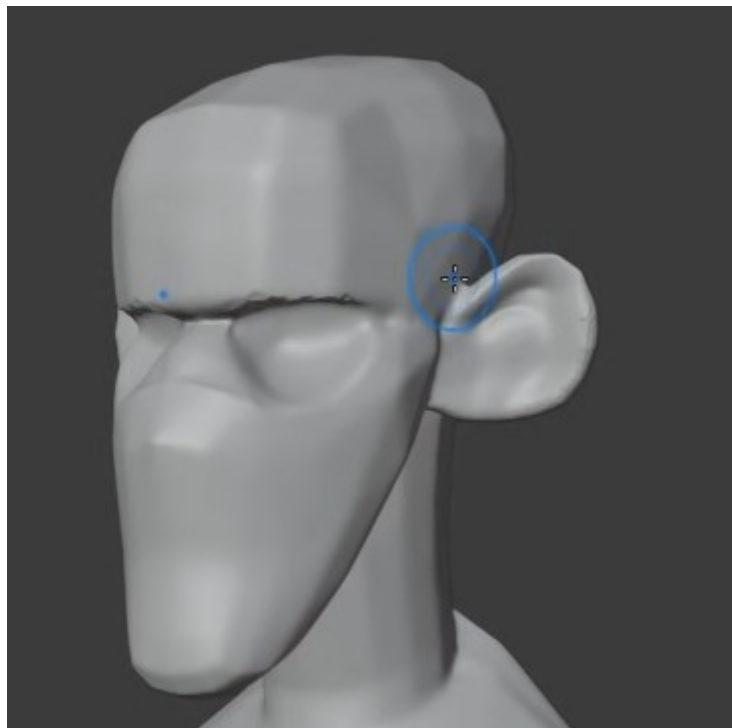
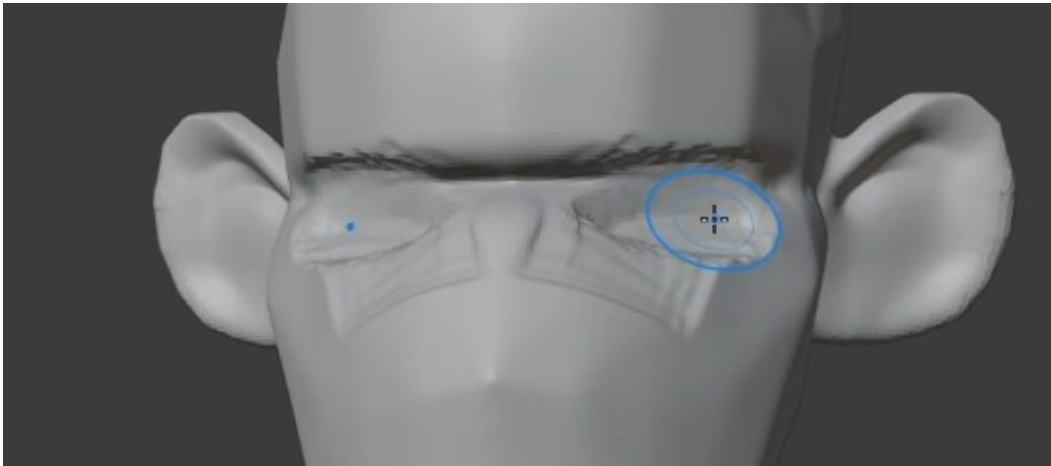
Your model's ears might be a little too thin after the smooth shading section, if you can easily “pump them up” a bit by using the **Inflate** brush.



Next tool is the “**Clay Strips**” tool. Normally, this is used to add lumps of sculpting clay on top of your sculpt. But if you hold **CTRL** while you use the brush this has an **inverse** effect and can be used instead to dig out spaces in your sculpt.

Use this now to dig out two “orbital” spaces for the eyes to sit in, just below the eyeline we have drawn. Using mirror symmetry should be able to do both at once and it should progress like this: -

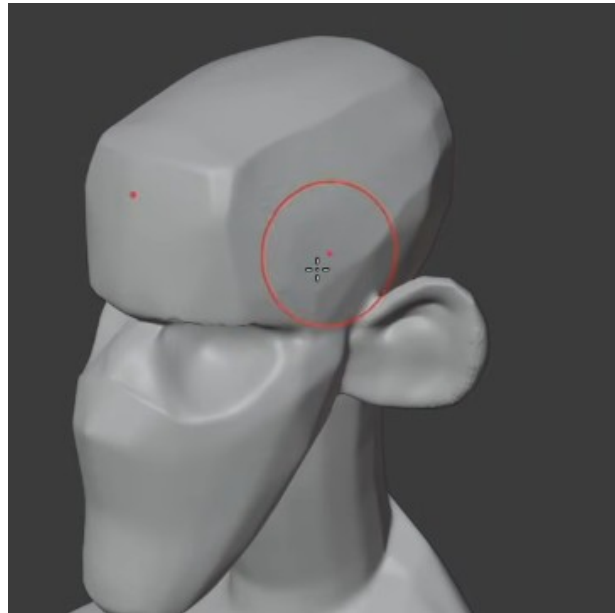




You can again use the SHIFT hold down to smooth it out once you have it dug, as has been done above.

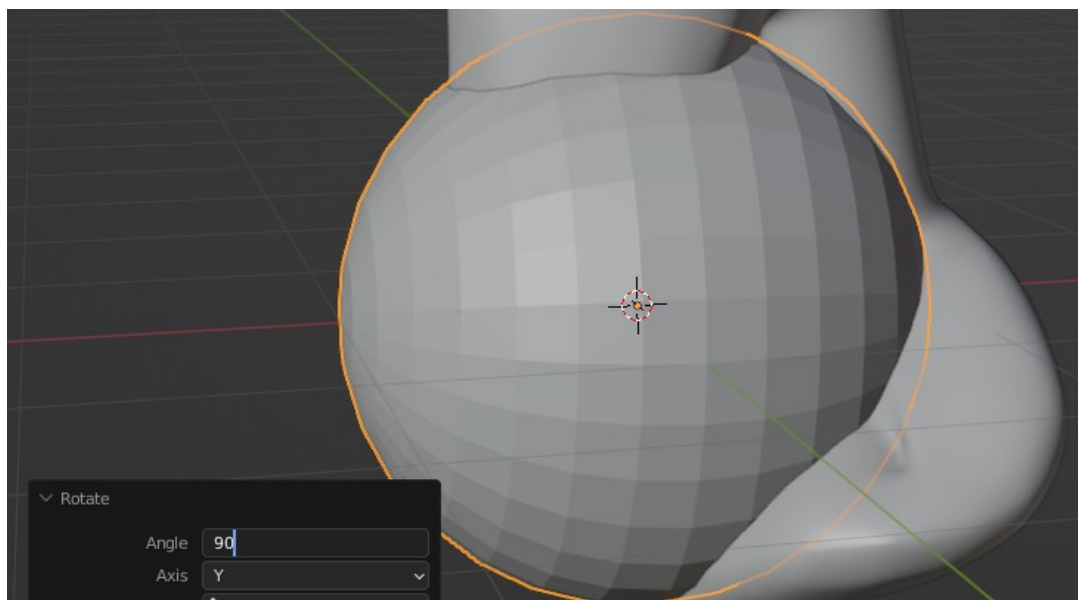
Last brush for now, the scrape brush can be used finally around the head to simplify some of the remaining planes, but again use sparingly as it can be quite destructive if over-used: -





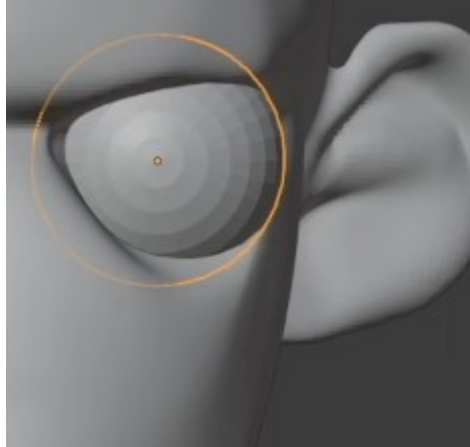
So now let's add the eyes: -

Return to Object Mode and add a new sphere mesh object and rotate it through 90 degrees in the y-axis:



This turns the sphere so that the top part of the sphere points forward like the iris/pupil of an eye.

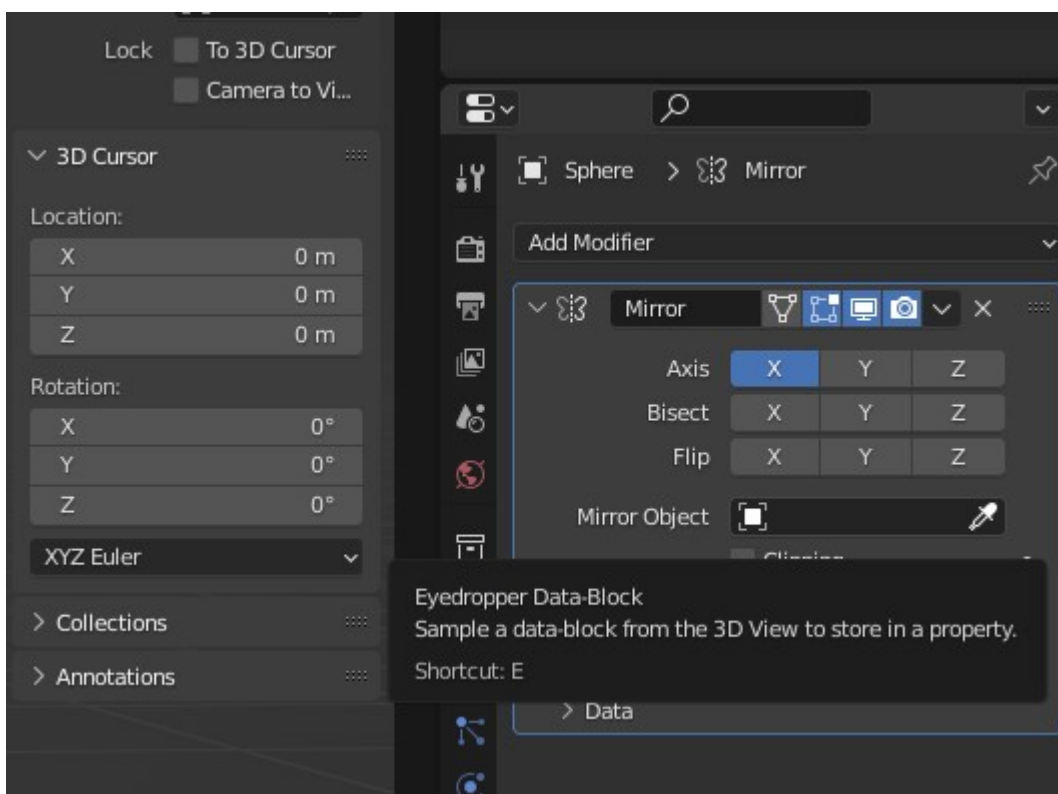
Scale it down and place it in the left eye socket, something like this: -



[Moving just one axis at a time is essential to do this neatly..]

And now we deploy a mirror modifier once again, like with the ears, to create a mirror eye on the other side: -

Making sure you have the first eye selected, in object mode, add a mirror modifier and this time we will use the eyedropper tool : -



This is the small dropper icon on the right of the row labelled “Mirror Object”.

Select this and then click anywhere on the head object. This tells Blender to use the head as the object to perform the mirror with – and with that a 2<sup>nd</sup> eye just appear in the other socket!



If this fails for any reason, just mirroring in the y-axis is more or less the same effect, so long as you character is still symmetrical on the x-axis.

## EYE-LIDS

Now for some eye-lids. This is one of the trickiest parts in the whole build, so be patient and take it step by step! And don't be afraid to CTRL + Z to reverse something if you've made a mistake.

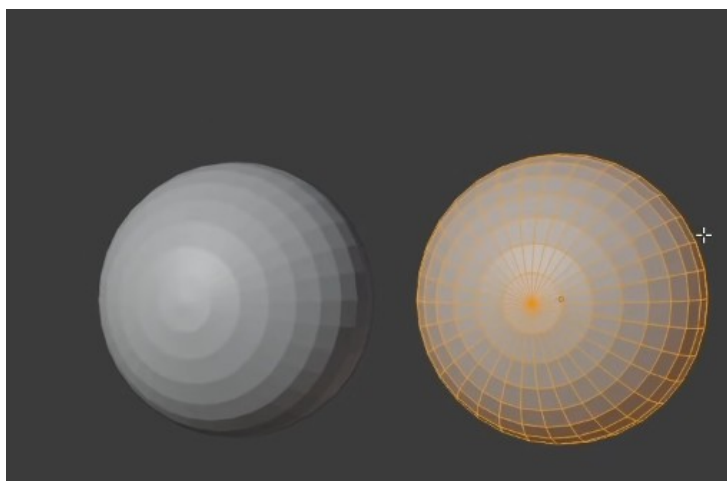
We make these as follows: -

Select the eye. Duplicate it with shift+D and scale the duplicate just a little bit bigger than the original eye.

A scale factor of about 1.1 should do the trick.

Now we need a new trick to do the somewhat tricky operation we are about to do to make eyelids. With the eye selected in object mode, we press the hotkey "/" (forward slash) – this is the **isolate** key. It hides all other parts temporarily while you work on one specific object in isolation. To bring them back when we're ready just press "/" again to reverse the isolation.

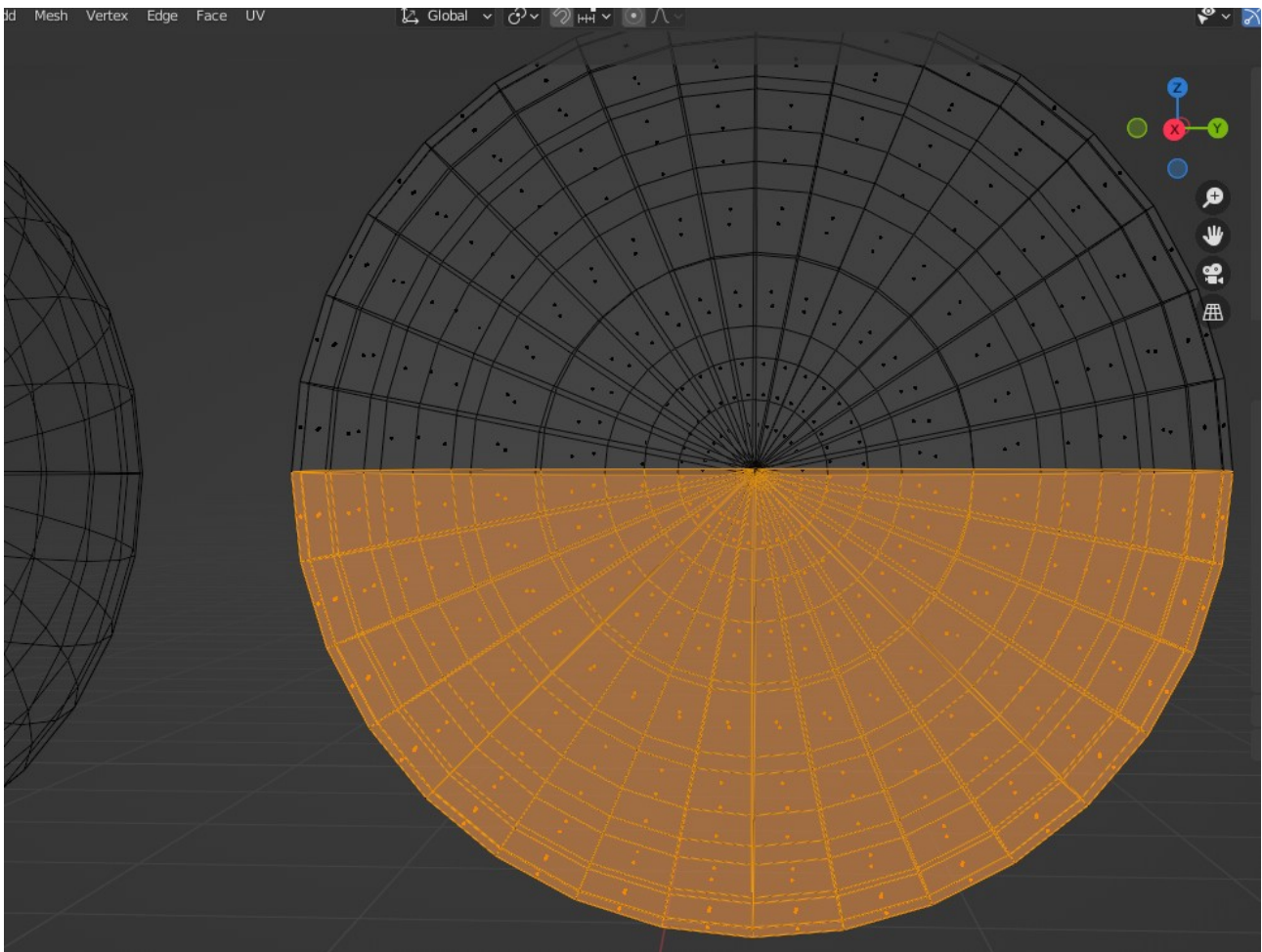
Also now enter edit mode (shortcut is to press tab key), you should now be seeing something like this: -



We now want to select only exactly the **bottom half** of the eye.

Press Z to enter wireframe mode. And draw a box by eye to select only the bottom half of the eye.

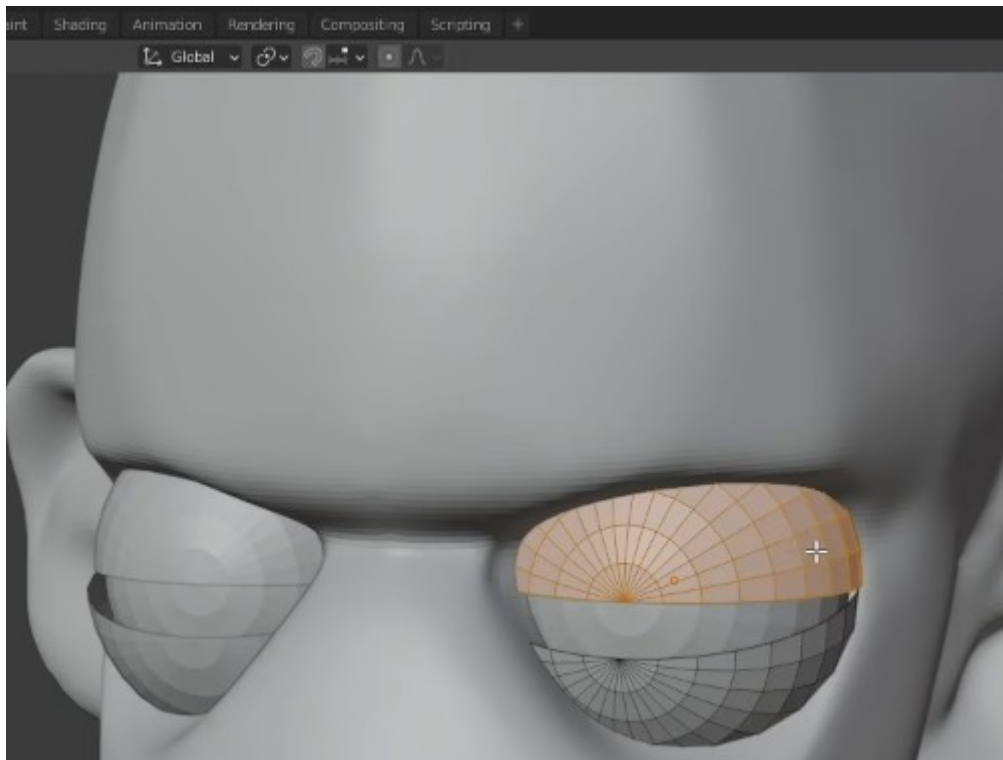
If you select a few faces too many, they can be unselected by clicking on them whilst pressing shift. It is much easier to switch wireframe mode off for a second to do this as otherwise you'll select through the eyeball as well as at the front. Similar for any missed faces add them in with shift + click. Just make sure face selection is on. Work around the eyeball until exactly the bottom half is selected.



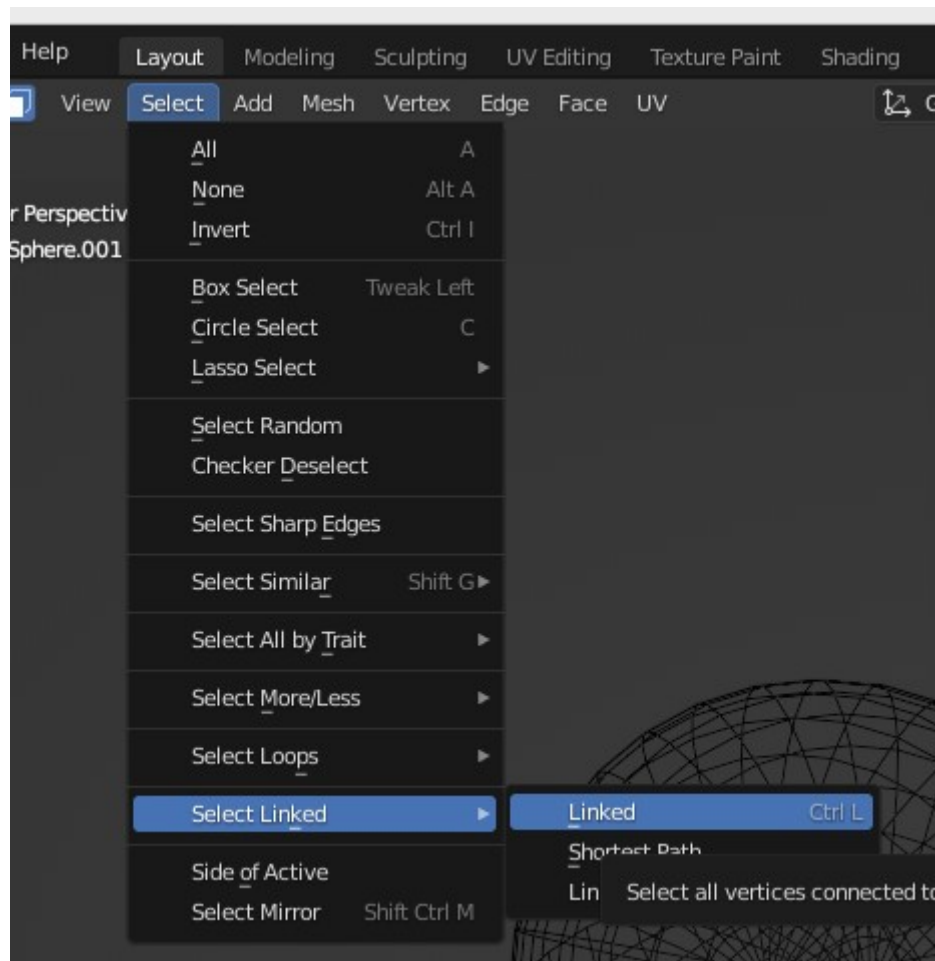
Now tap “Y” – this shortcut key when in edit mode splits the selected faces away within the current object, so they are no longer considered linked. (If you want to check this works now press G and move the select half around, then press Ctrl + Z to return it back in place.

Now reverse the isolation.

Press R and then Y and rotate the selected bottom eyelid down into a natural bottom eyelid position, around the Y-Axis.



As the two halves are now separated, you can use a special kind of select method to select all of the top lid now for rotation upwards for the top eyelid, select one face in the top eyelid then do this:-



This means select all part of the object linked together, starting from the selected face. As you can see in the screenshot the shortcut is CTRL + L.

The whole top eyelid can now be rotated upwards in a similar manner.

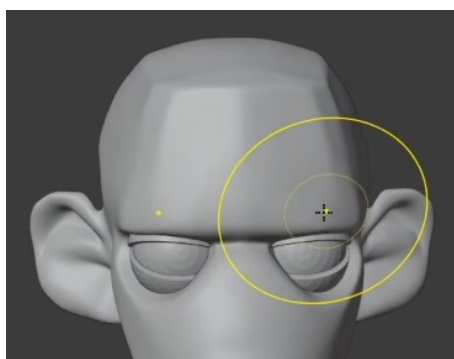
Now these eyelids will be very thin – add a solidy modifier & increase the thickness until you end up with something along these lines: -



The bottom eyelid is usually a little bit behind the top eyelid so use the select linked method again in edit mode and once selected use G to move it just a little bit further back into the head.

Ok now at this point apply all transforms and modifiers on both eyes and eyelids.

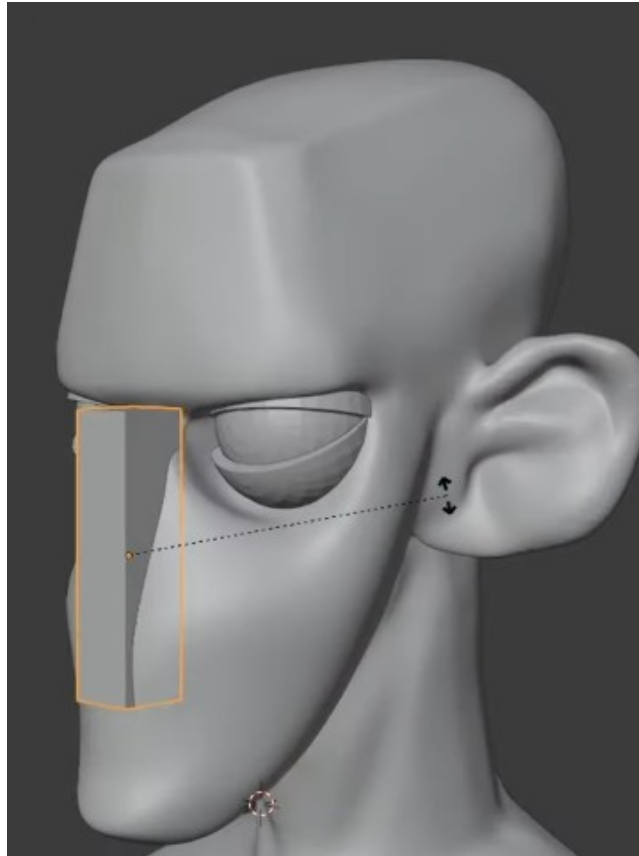
Next sculpt the head around the eyes, using the elastic transform brush to just make sure you're eyes look like they fit into the head properly



# NOSE

Now it's time to add a nose.

The basic starter object we'll use for this is a cube – add a new one to the scene in object mode, scale it down to a roughly nose sized rectangle and put in place : -

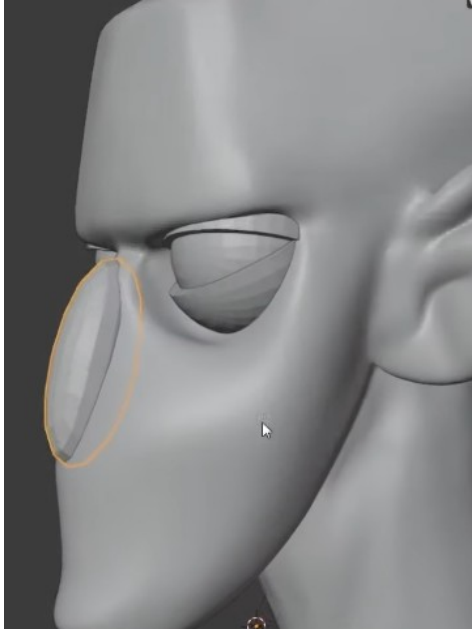


Using the R shortcut rotate it back slightly to a nose angle, then add a level 2 surface subdivision modifier: -

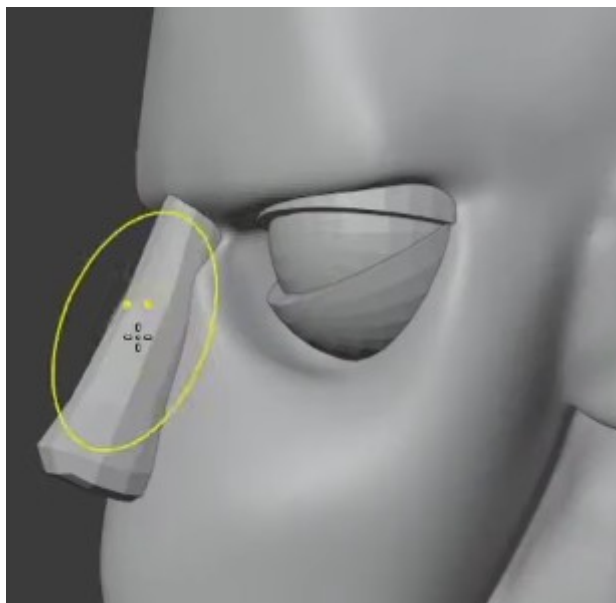
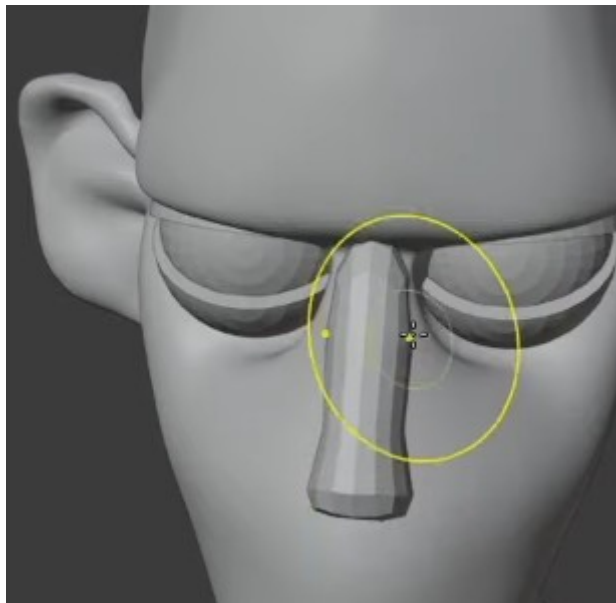




Scale it back up to an appropriate nose size and apply the subdivision modifier and all transforms: -



Next edit it in sculpt mode with the grab tool to approximate a nose shape: -



it's important to give the nose a slight bridge : -

