

INTRO TO BLENDER MESH MODELING-Subsurface

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Short paper again and here is why.

The actions and editing you will carry out in *Sub D/Subsurface modeling* are just your usual Mesh editing ones. What **Subsurface** modeling involves is using a lower polygon model to build a higher rez model at the same time. How is this achieved? Basically the higher rez model is a instanced copy of the lower rez one, upon which a Sub-D(ivision) value is placed, but it does not just Sub Divide but also Smooths the shape.

Since it is an instance changes made to the lower rez *guide model* are immediately placed into the higher rez model with accompanying sub divisions. There are some other concerns, but for just basic modeling that about does it.

Start a new scene and select the Cube in '*Object Mode*' then go to a **Buttons Window Type- Editing Panel**. Look for the Area called Modifiers and from the list pick '**SubSurf(ace)**', which adds the Modifier to the Cube and now shows the Subsurface options available.



Your Cube now looks like a Sphere in *Object Mode*, but switch to **Edit Mode** and you see your Cube surrounding the Sphere shape.

1) Modifier (re)name input plus buttons for **Enable During Rendering**- on your high rez is rendered, off the lower rez mesh is.

Enable Interactive Display- does High rez show in 3D View Object Mode instead of Low rez.

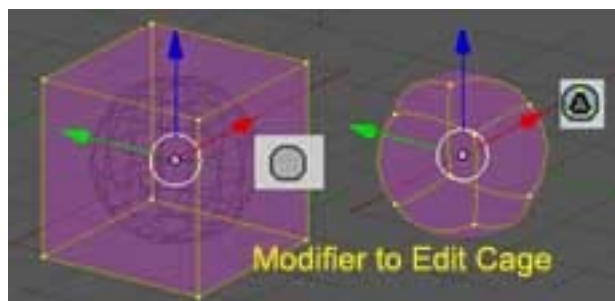
Enable Interactive Editing Display- does High rez show in Editing Mode.

2) Type of Sub Division used, here Catmull-Clark. **Levels:** of sub divisions, and Render Levels: sub division level shown at render.

Plus **Optimal Draw** to turn off/on the interior

sub divisions, and lastly **SubsurfUV** for sub dividing the *Meshes UV's* due to editing changes (extrudes, cuts...)

3) Grey Button **Adds Modifier to Edit Cage in Display View**, or in this case shrinks the Cube around the Sphere shaped sub surface. But take notice how even though shaped to resemble the Sphere there are still only the six vertices of the Cube available to manipulate.



Up/Down arrow buttons move the '*Subsurf*' *Modifier* up or down in order of affect when more than one modifier is applied to the Mesh; *position can affect outcome*.

'**X**' deletes selected modifier while **Apply** means the Modifier's action become part of the Mesh and not just a Modifier. For Max and Maya users something similar to collapsed the '*Stack*' or '*History*'. Lastly **Copy** places another copy of the Modifier into the stack.

4) Merely shows types of sub divisions available from list.

Note: Instead of simply of simply doing an '**Apply**', you can use **3D View Header > Object (must be in Object Mode) > Convert Object Type 'Alt C'**. This gives you the option of Converting to a Mesh and yes/no on keeping the Original Object.

Try working with a Subsurface Mesh, start of by just extruding faces of a Cube

Important to Remember

a) Sub division density is even per face as set by level, meaning if you're building a hand and want more bend faces at the knuckle joint for bending. You can not change the 'Level' for just those faces, what you would do is pick the faces of the low poly control cage and sub divide them in its knuckle area.

b) If building LOD's for a game you could '**Convert Object Type**' and keep the original, then on the original mesh delete the *Subsurf modifier* and have both a high and low rez version of a Mesh.