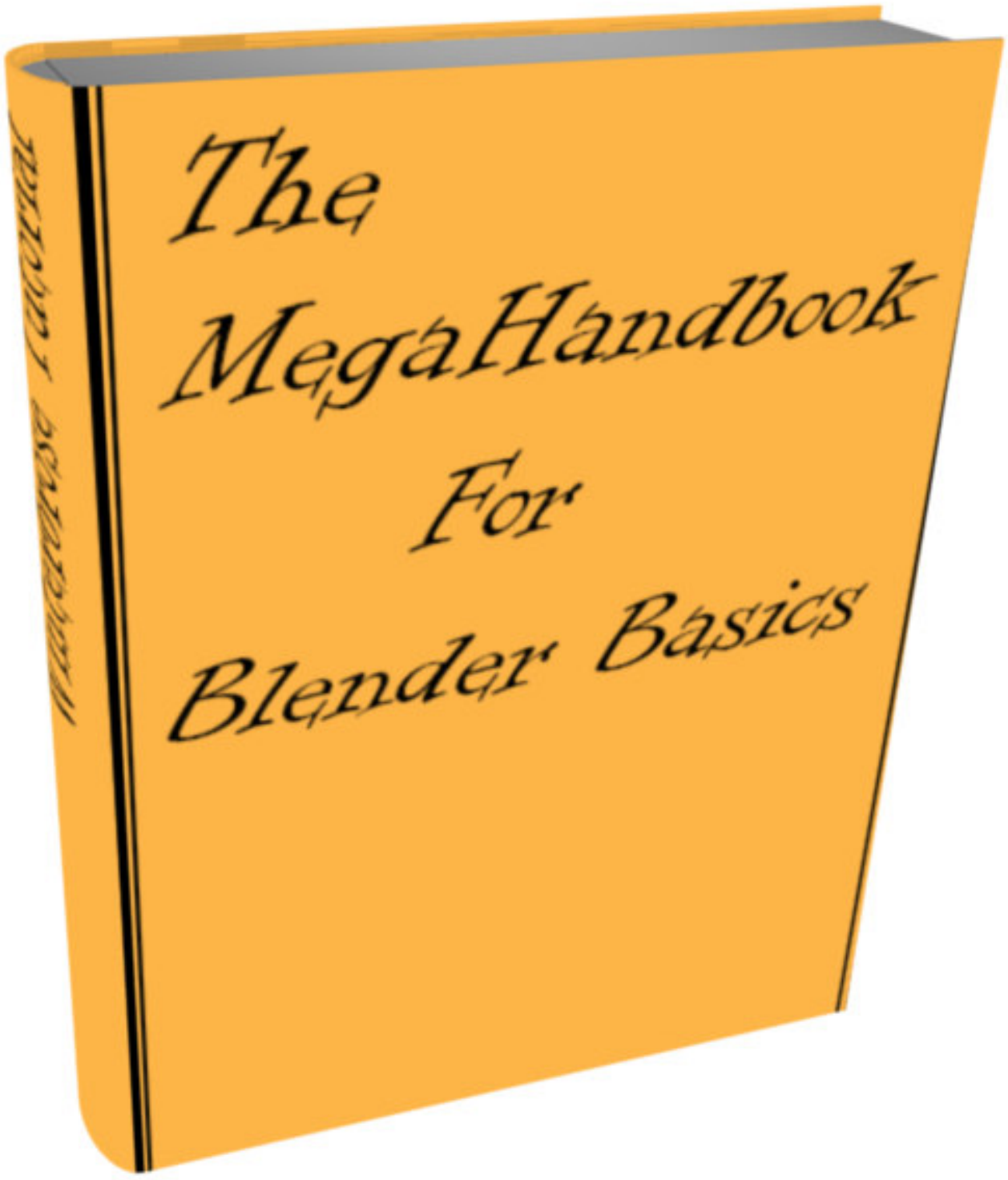


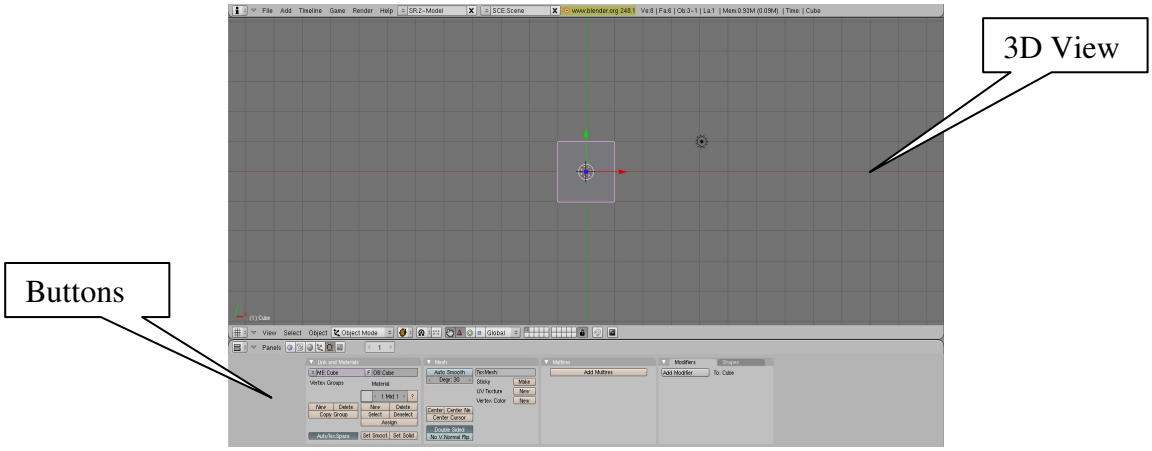
A WINTERBROSE EXCLUSIVE
by
Zeal

Table of Contents

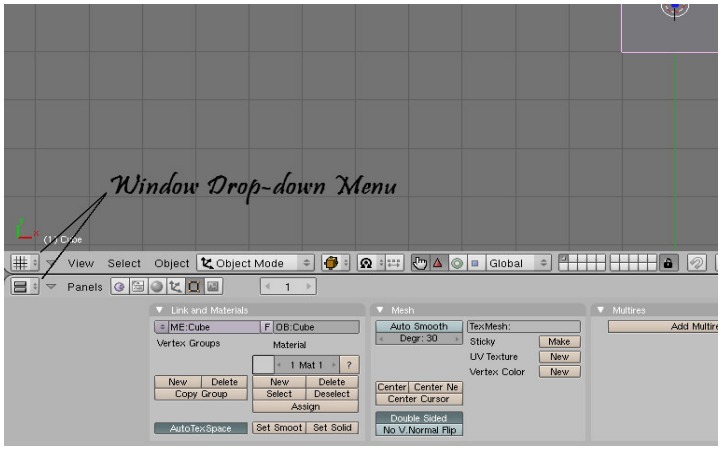
Configuring Your Workspace

Now if you are completely new to Blender, you may be scared of all the buttons and different things that happen when you hit keys. So I am here to help you understand the basics of Blender just to get you started in the right direction and enough so that you don't keep messing up and having to restart all of the time.

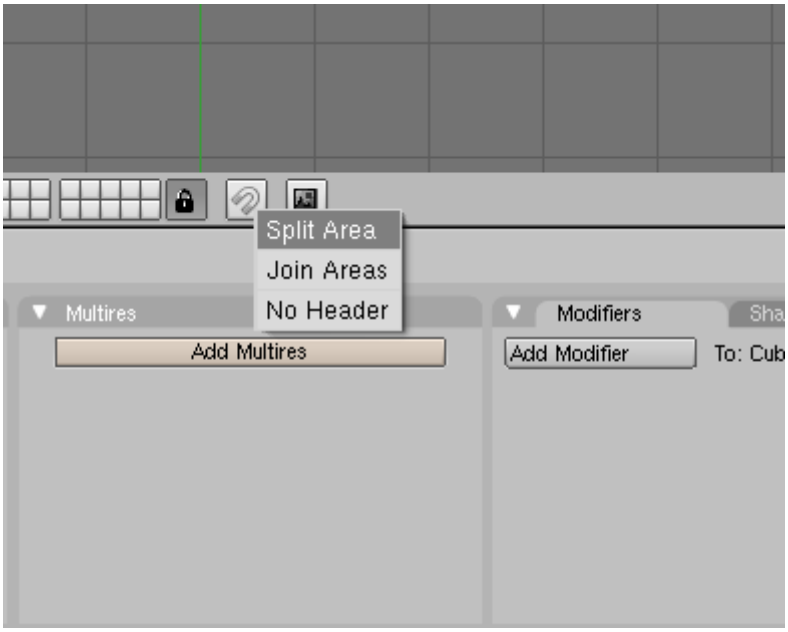
First off, let's get you acquainted with your workspace. When you open Blender up you will first see a Cube and below it a lot of buttons. There are two Windows that you are currently looking at, the 3D View Window which contains the Cube and the Buttons Window which contains all of the various buttons. When you first open Blender you should see something like shown here.



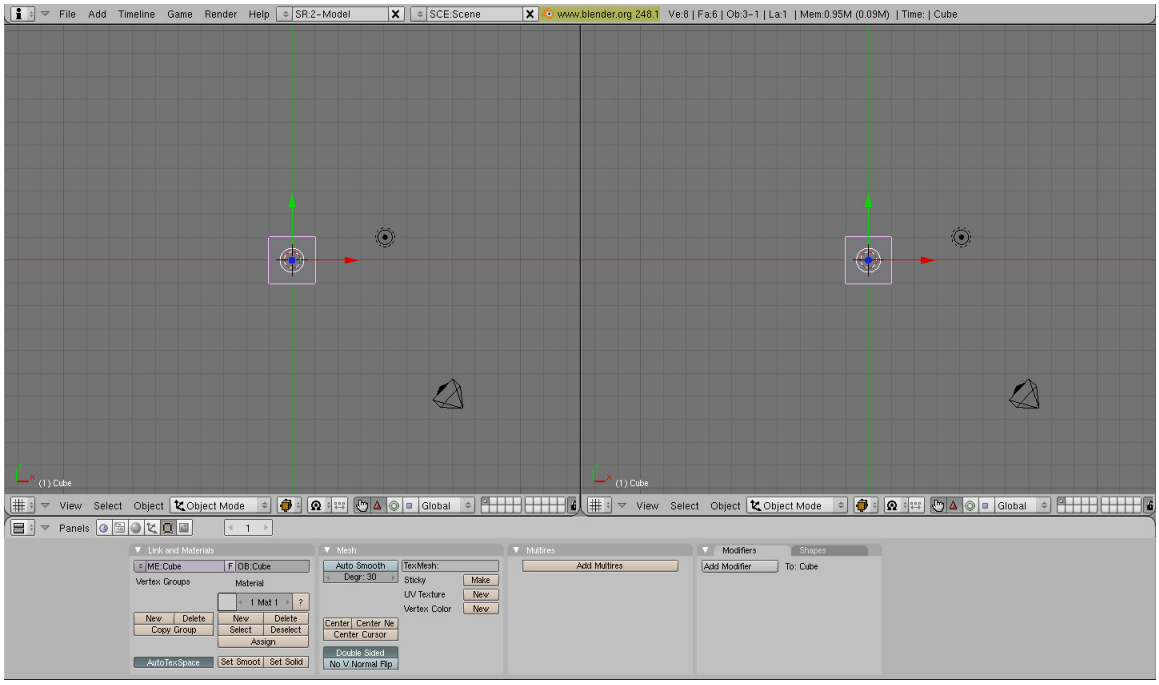
And here are the window drop-down menus to change what type of view is in the window.



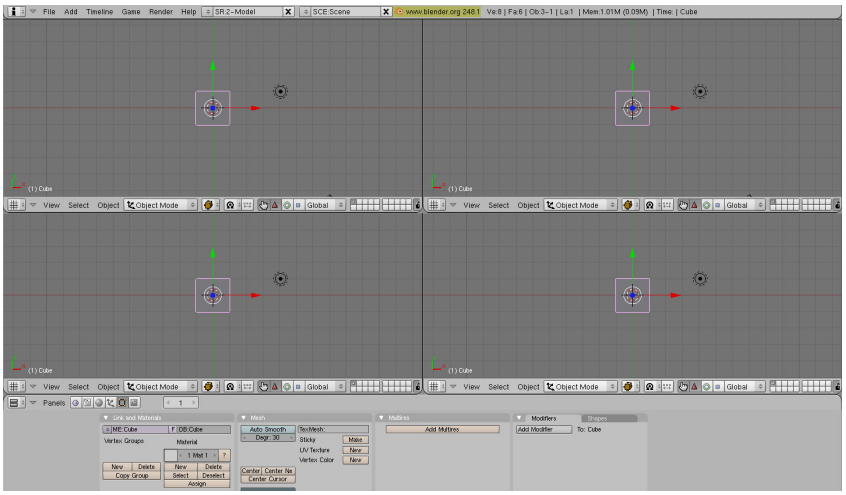
Now these are two Windows separate from one another, so if necessary you can add and remove Windows to how you please. So let us first setup a new Workspace. If you move your mouse on the border in between the two windows and right click it will give you some options.



Now split the area and get a new Window.



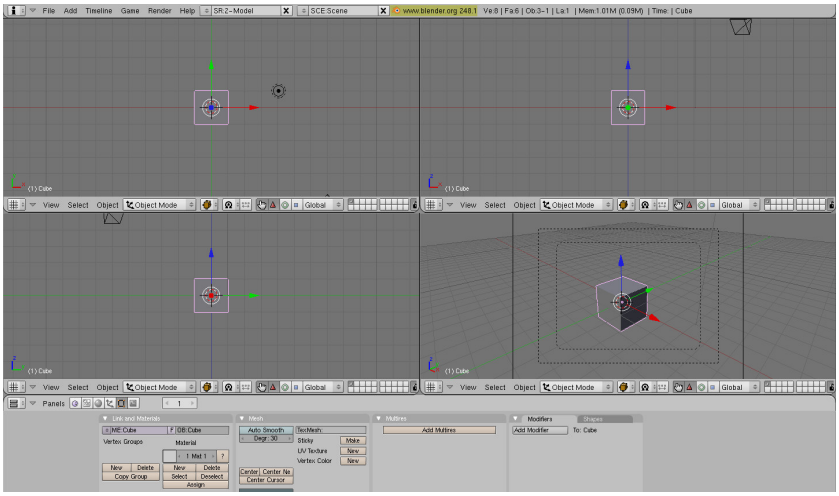
Now test out splitting Windows and changing what type of window they are from the drop down menus and then join the windows you don't need anymore. Just mess around until you have a Workspace you are comfortable with. I split my Workspace into four 3D View window's to allow for use of our next step. Split your screen to look something like the one below.



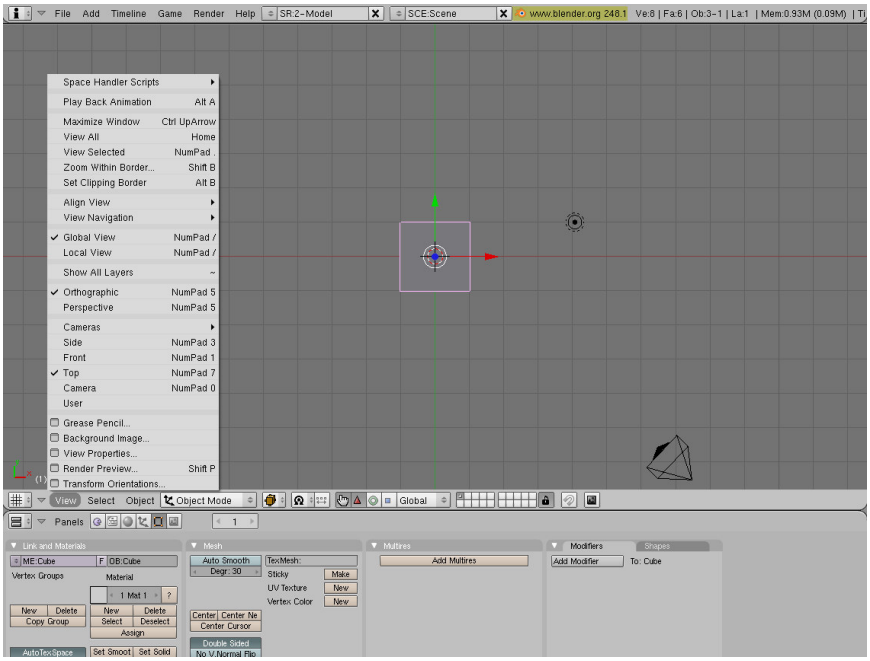
Now move your Mouse cursor into the Top Left Window (so that the Top Left Window will become active) and press **7** on you Numpad, if it is how mine is setup nothing should happen. Next move your Mouse to the Top Right Window and press **1** on the Numpad. Then move your Mouse to the Bottom Left Window and press **3** on the Numpad. So far we have altered the views on all of our windows allowing us to see what is going on from different angles about the Cube.

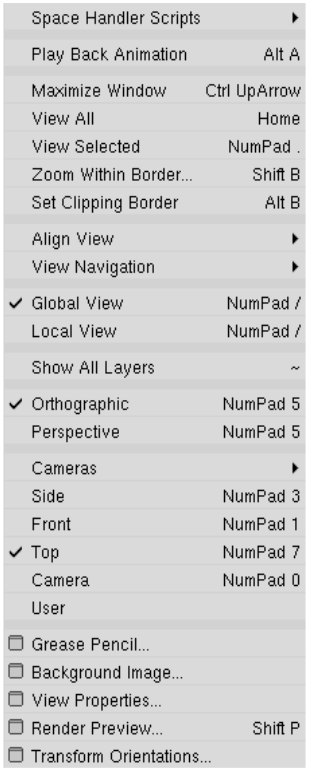
7 = X-Y plane (top) **1** = X-Z plane (front) **3** = Y-Z plane (right)

Finally move your cursor to the Bottom Right Window and press **0** on the Numpad, now it is in the perspective of the Camera, for when you render the scene, now you can see what it will look like before rendering at all times and adjust it accordingly. If all done well you should see something like this:



If you are tired of those pesky **XYZ** vector arrows that shoot out from the center of your objects, just click the little hand  in each 3D View Window. Now if your Views look a little different than this, the next part may be of help. I'm going to now show you the View menu  option:





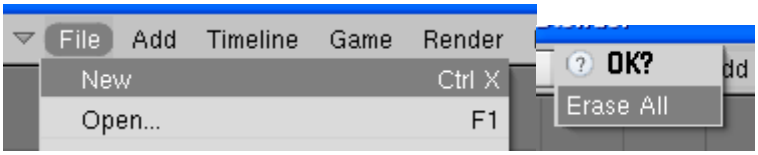
Now if you look at the options you will see **Side**, **Front, Top**, and **Camera**. These were the 4 views we used for the last exercise. So if you can't use your Numeric Keypad, you at least know where to find them on the menus.

There is one more thing that can be important if you want to set your views up in a particular way. Look at the **Orthographic** and **Perspective** options. Hitting this or Numpad **5** will set the view to either orthographic or perspective. The views I did above were all in **Orthographic** which is the best view for editing an object. However if you want to see how it will really look just hit the **Perspective** option.

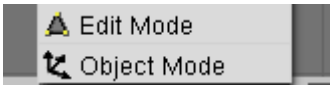
Knowing this is also useful if you want to view in orthographic but are stuck in perspective and don't know how to change it which happens to me all the time.

Edit Mode

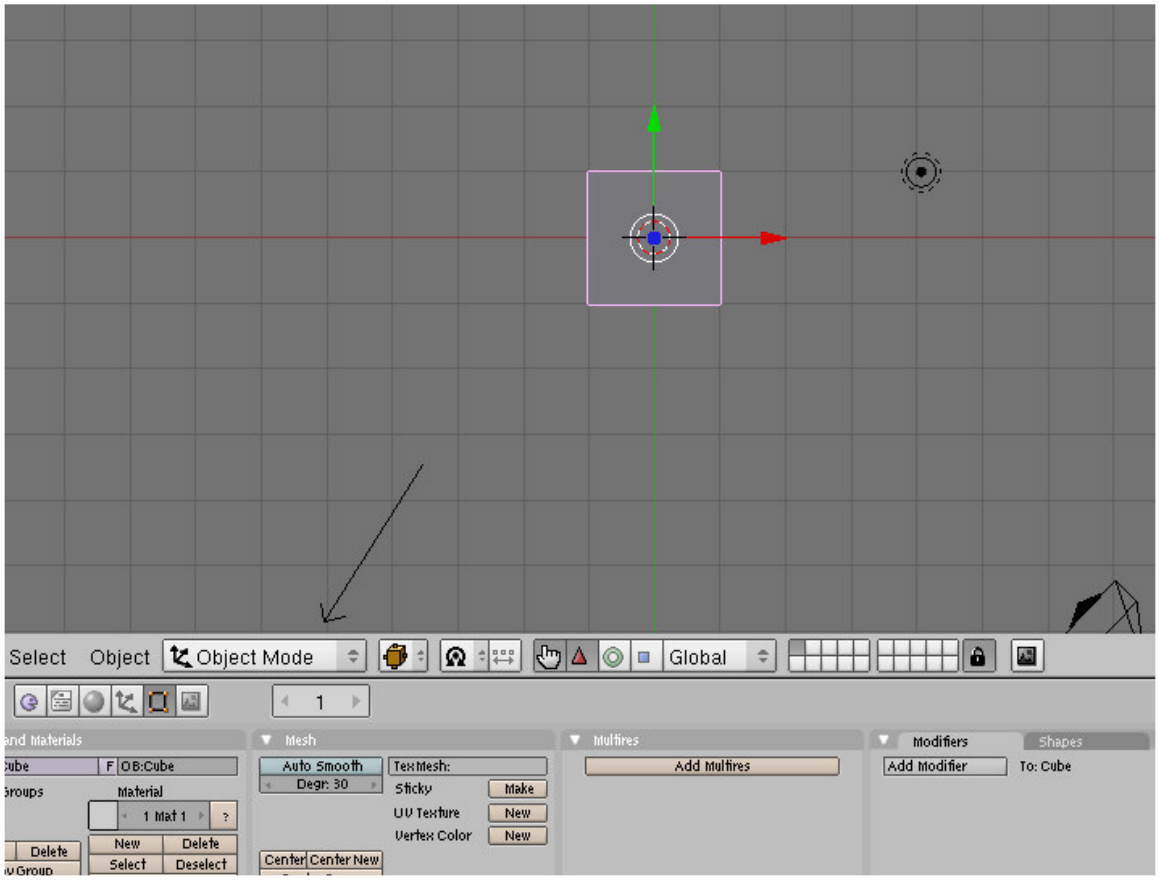
Now it's time to start creating, so let's start a new project. Go to **File -> New -> Erase All**



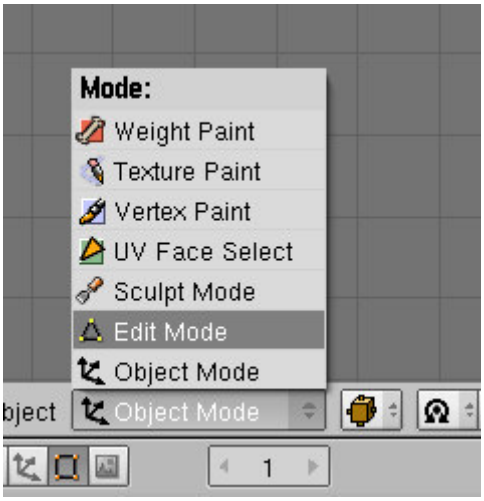
We are only going to be going over two modes, **Edit Mode** and **Object Mode**.



Normally the default mode when you start a new project is **Object Mode**.



To switch from one mode to another you can click the drop-down menu, or you can just hit the **Tab key** and it will toggle between **Edit Mode** and **Object Mode**.

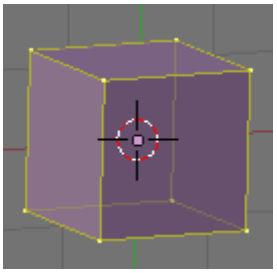


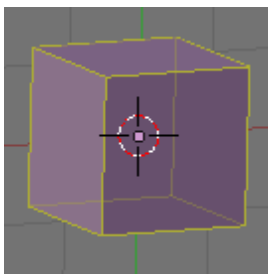
We now need to select the object we want to edit. To select the cube object while in **Object Mode**, just Right-click it. Once selected go into **Edit Mode** using one of the methods above.

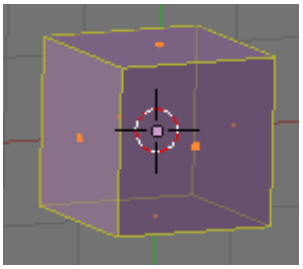
Now let's talk about your mobility, so that you can move around the 3D view any way you like.

We have already gone over the different views we could use in order to edit the object (Front, Top, Side). To change the view of your object manually, click and hold down the middle mouse button and move the mouse and your view will circle around the object. If you want to strafe (pan) your view, press the **Shift key** and then click and hold the middle mouse button while you move your mouse left-to-right or top-to-bottom.

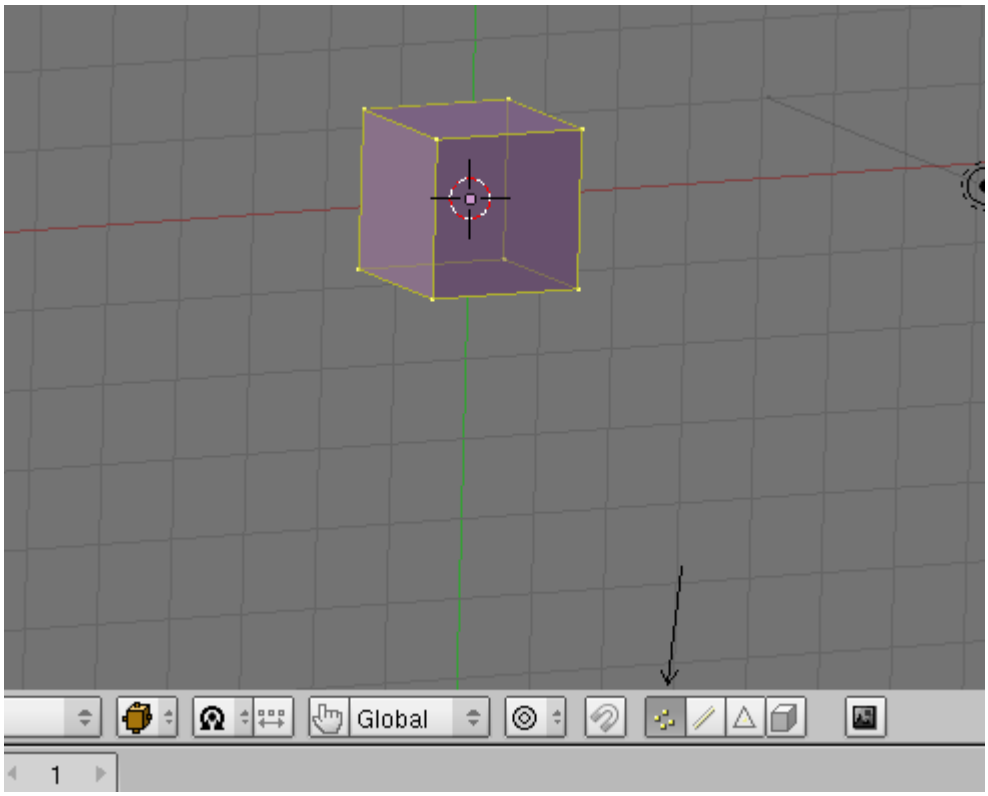
Now we are ready to start editing this default cube we were given. There are 3 ways you can edit the object or parts of the object; editing the vertices, editing the edges, or editing the faces. Vertices are just the dots at every corner, edges are the lines that are made from two connecting dots, and faces are the quads (made by 4 vertices) or triangles (made by 3 vertices). As you can see, the cube has Vertices.


Cube Vertices

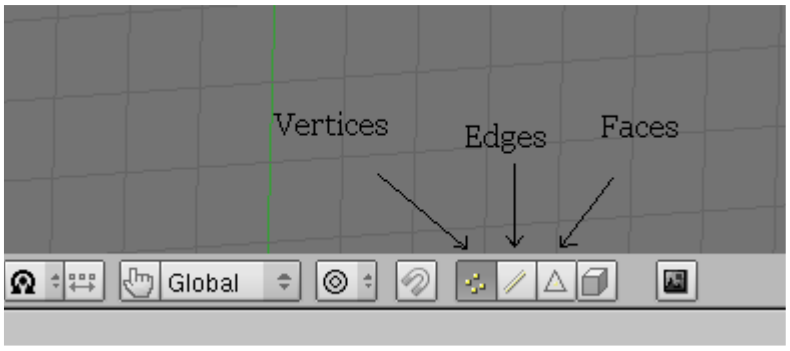

Cube Edges


Cube Faces

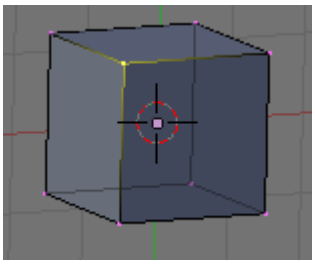
By default you start off in the vertices editing mode.



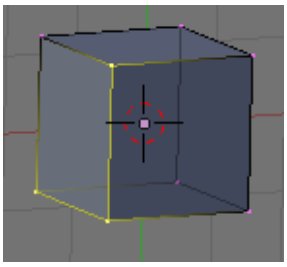
To change to edges or faces editing mode just click the one you want.



Let's first start in the vertices editing mode. When you **Right-click** on the vertices, you are just selecting them which will allow you to manipulate them. To select more just hold **Shift** while you **Right-click** more vertices. If you need to deselect the vertices just **Right-click** while holding **Shift** on a selected one.

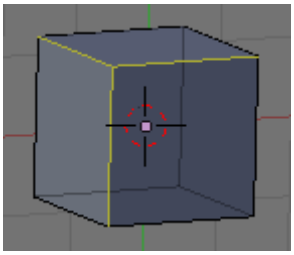


One Vertice Selected

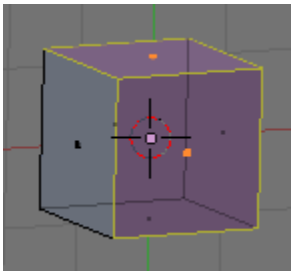


Multiple Vertices Selected

Now switch to edges editing mode. You can select/deselect the edges the same as the vertices, just this time you click on the lines as opposed to the dots.



Lastly let's try out faces editing mode. It is the same as the last two just **Right-click** to select and hold shift to select and deselect multiple faces.



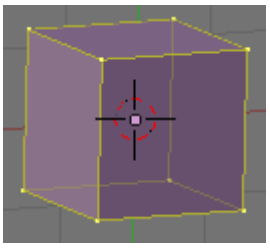
When you get into more advanced projects you will find these different editing modes useful.

ToolBox

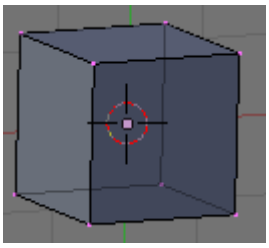
Now it's time to pull out your toolbox and work on this cube with the tools available to you. The tools I will be going over are: **All Select**, **Border Select**, **Grab**, **Scale**, **Rotate**, **Extrude**, and **Duplicate**. You will see that the associated hotkeys go along with these tool names.

All Select / Deselect

First off, **All Select** will select everything. To select everything just hit the **'A' key**. To deselect everything hit the **'A' key** again, this is very useful if you want to deselect everything you have selected. Without it you would have to manually select and deselect everything.



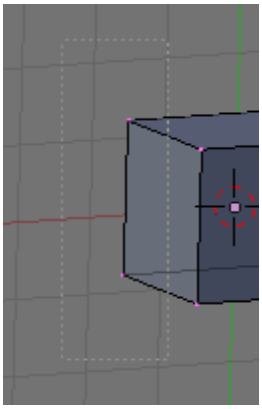
All Select
{everything selected}



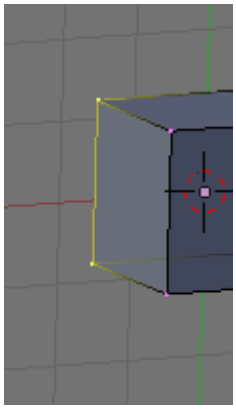
All Deselect
{nothing selected}

Border Select

Next is the **Border Select**, this will select everything within the selection box you provide. To start a **Border Select** hit the **'B' key**, and then to create the box, click and hold down the **Left Mouse Button** (or **Right-click** to cancel) and move your mouse pointer until the box is however you want it, then let go of the **Left Mouse Button** to complete the selection



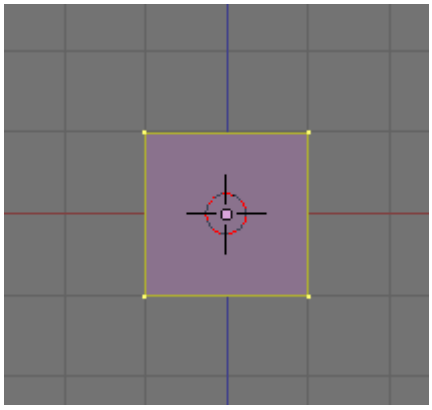
Nothing Selected



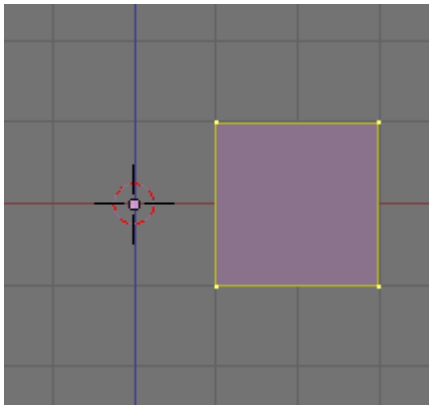
Edge of Cube Selected

Grab

Now we will go over **Grab**. You can grab anything selected and are allowed to move it the way you want. To grab something first select something, and then hit the **'G' key**. Once you grab something, you can move it where you want it and click the **Left Mouse Button** to un-grab it or **Right-click** to cancel. Do an All Select and Grab the cube to move it to the right.



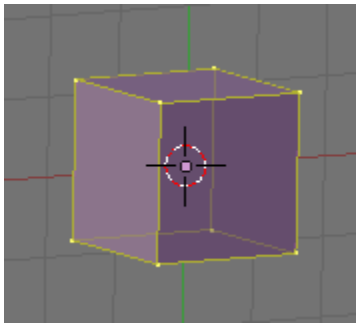
Cube at origin point



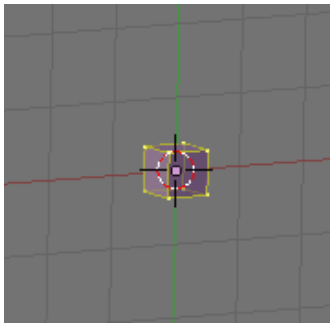
Cube moved to right

Scale

The next tool in our toolbox is **Scale**. **Scale** just shrinks or grows the selected region. To scale something just hit the **'S' key** and move the mouse to vary how much the selected region will be scaled. Once you have it scaled to the right size, just click the **Left Mouse Button** to finish or **Right-click** to cancel.



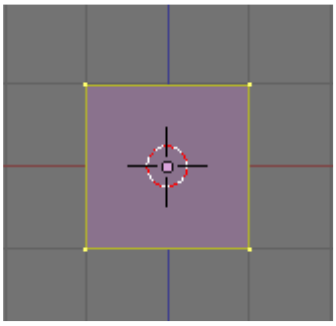
Original Size



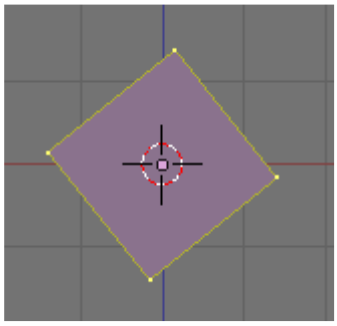
Scaled down (shrunken)

Rotate

Another tool is **Rotate**. **Rotate** just rotates a selected portion. To rotate just hit the **'R' key** and move your mouse around to change how much the portion selected is rotated. Like the others just click the **Left Mouse Button** to finish rotating or **Right-click** to cancel.



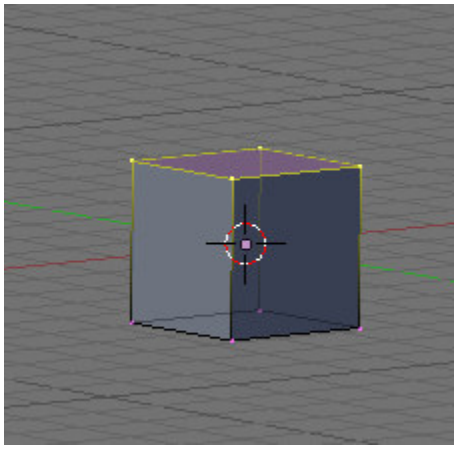
Original Orientation



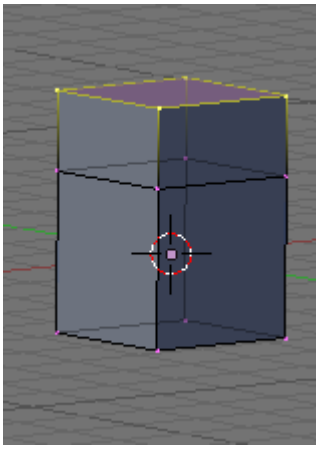
Rotated

Extrude

One nice tool available is **Extrude**. This extrudes a new section from the selected portion. To **Extrude**, hit the **'E' key** and when you have it extruded as far as you want it, click the **Left Mouse Button** to complete the extrusion or **Right-click** to cancel.



Standard Cube

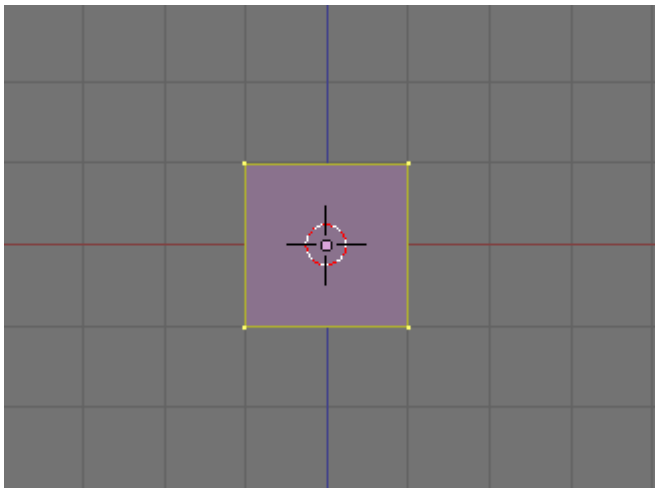


Top of Cube Extruded

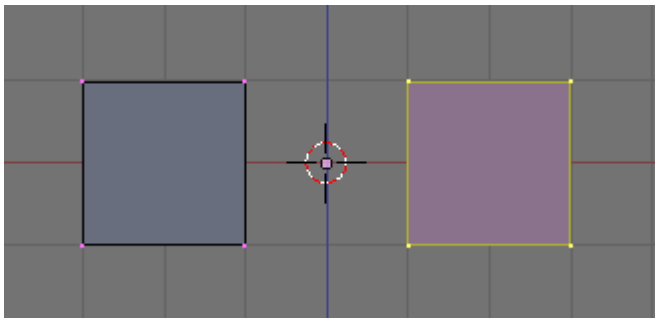
For **Extrude,** there are 3 possible ways to extrude. Extruding the **Region** will extrude the vertices, edges, and the associated face. Extruding the **Edges** will extrude the vertices and the edges, excluding the face associated with them (if any). Extruding the **Vertices** will only extrude the selected vertices. If you are in Vertices **editing mode**, you can extrude all 3 ways. If you are in **Edges editing mode** you can extrude only **Region** and **Edges**. Lastly if you are in **Faces editing mode** you don't have a choice and can only extrude the **Region**.

Duplicate

Lastly is **Duplicate**. **Duplicate** just copies the selected portion to make a clone. To copy just hit **Shift-D** and move the copied portion to where you want it using your mouse and click the **Left Mouse Button** to finish.



Cube with All Select



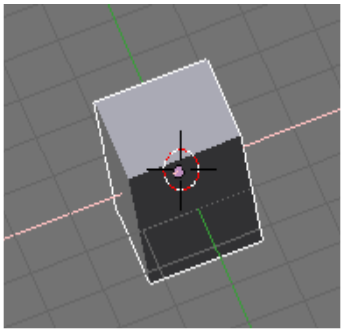
Original Cube *Duplicate of Cube*

Delete

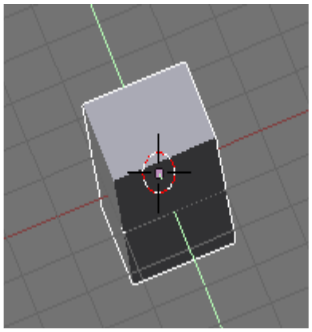
One more thing I would like to go over is **Delete**. The **Delete** key will delete anything selected, but I'm sure that is already obvious enough.

Fine Tuning

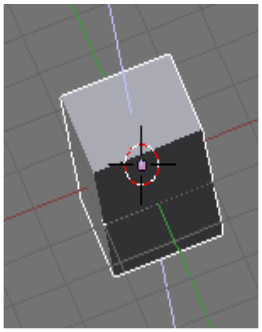
In addition to these tools, you can specify exact ways of editing your objects. First off with some tools such as Grab, you can be more accurate with moving by using **Ctrl** and **Shift**. If you are in the process of using grab to move something, holding Ctrl will move the selected region in big increments while Shift will move it in smaller increments. You can also move the object along one specific axis. To do this when you are using a tool just hit the **'X'**, **'Y'**, or **'Z'** key and it will then only work on the axis specified. This fine tuning doesn't just work with **Grab,** but also with **Scale**, **Rotate**, **Extrude**, and **Duplicate**.



X-axis specified



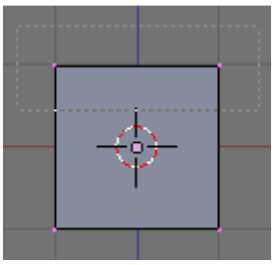
Y-axis specified



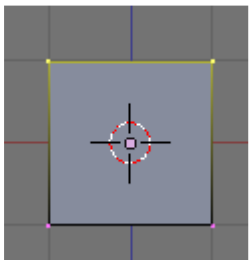
Z-axis specified

PROJECT

Let's do an example by editing our cube a little. Border Select the top of your cube.

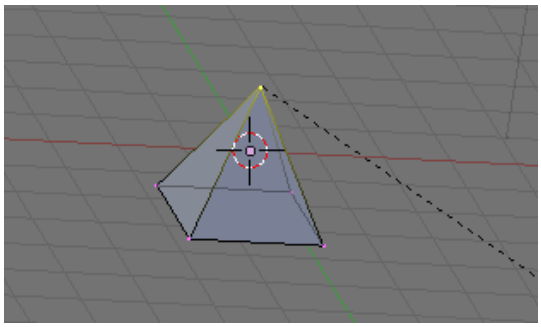


Border Select

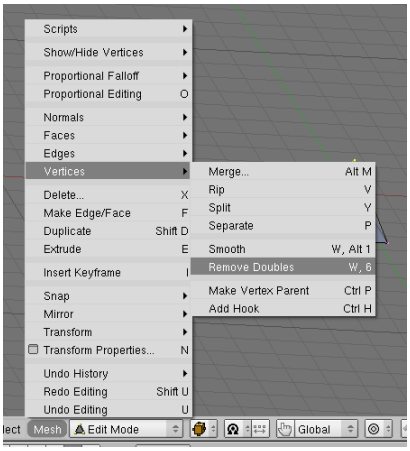


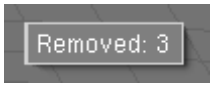
Region Selected

Now we are going to scale the selected region. If you hit a number, it will set the scaling value to the number you typed; for this part just hit zero "**0**" to get all values to "**0**". In other words, the X, Y, and Z meeting in the middle:



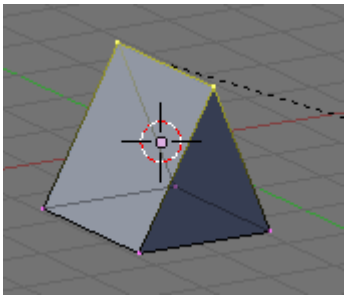
If you didn't realize it, there are now 4 vertices all in the same spot. More than likely this is not what you want. So to correct this, make sure all of them are still selected and on the bottom of the 3D Viewing panel go to **Mesh -> Vertices -> Remove Doubles** and click on "Removed 3" when it pops up. This will remove any extra vertices in too close proximity.





There are other options on the Mesh menu as you can see, but I'll leave you to test those out on your own. Next let's go back before we scaled the cube down. Just hit **Ctrl-Z** until the cube is not scaled anymore. If it isn't working for you, make sure your mouse cursor is over the viewing screen.

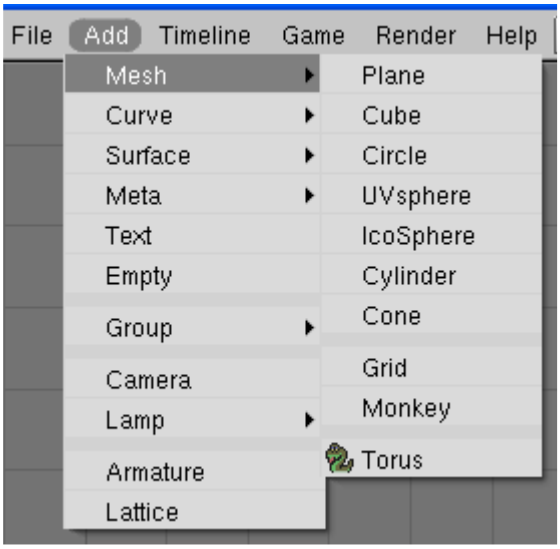
Border Select the top part of the cube again, but this time when you Scale hit the **'X'**, **'Y'**, or **'Z'** key, then hit **0**, for whichever axis gives you something like this:



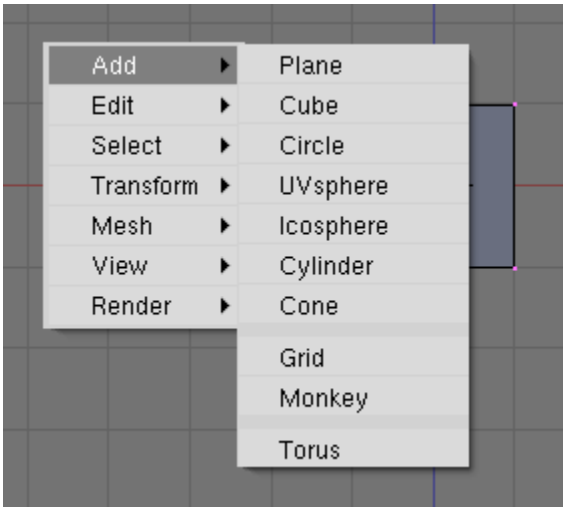
You can remove doubles again to get rid of the 2 extra vertices on each end. This demonstrates how using these specific ways of using your tools can get you varying results.

Adding An Object

Now if you want to add another object you can either use the menu bar or use the **Spacebar**, which will bring up a drop-down option menu, and one of your options is **Add**, which will let you add a mesh which is just a separate object or press the Spacebar.



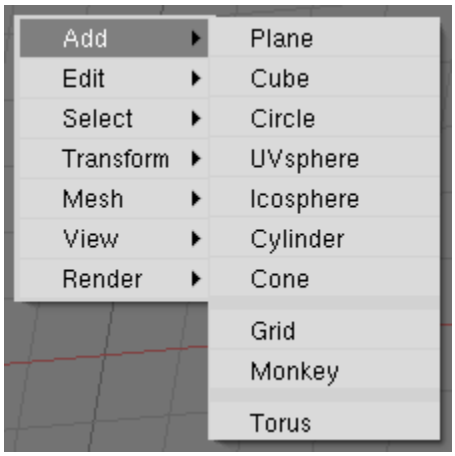
MENU: Add -> Mesh



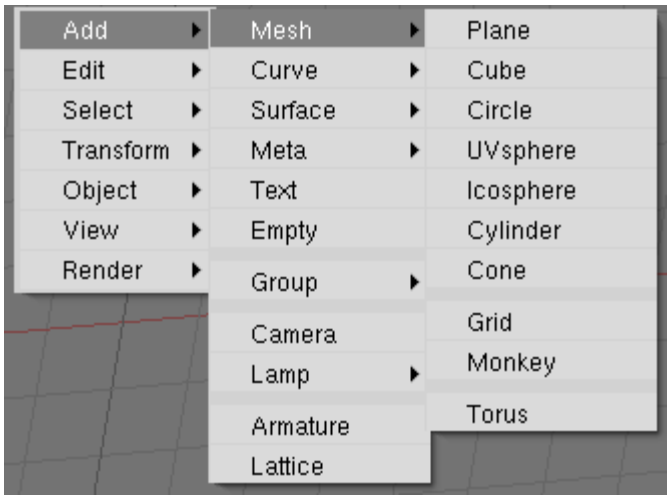
SPACEBAR

Now when you choose the mesh you want, it will appear wherever you have set the crosshair.

If you are in **Edit Mode** you will get this menu when you go to **Add**:



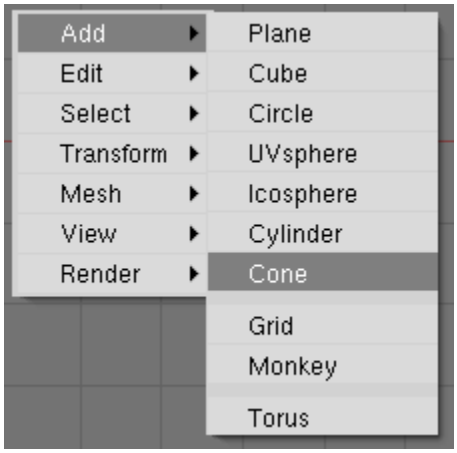
Adding in EDIT Mode



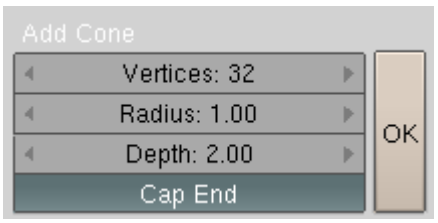
Adding in OBJECT Mode

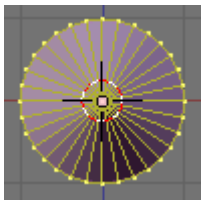
Just go **Add->Mesh** to get the object you want, but in **Object Mode** if you add a mesh it will be a completely separate object.

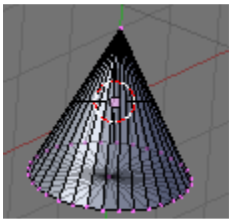
Now let's add a new object.



For some objects you will get this option, it is pretty self-explanatory, but default usually works fine, try testing it out to see what the different parameters do or just click the OK button.



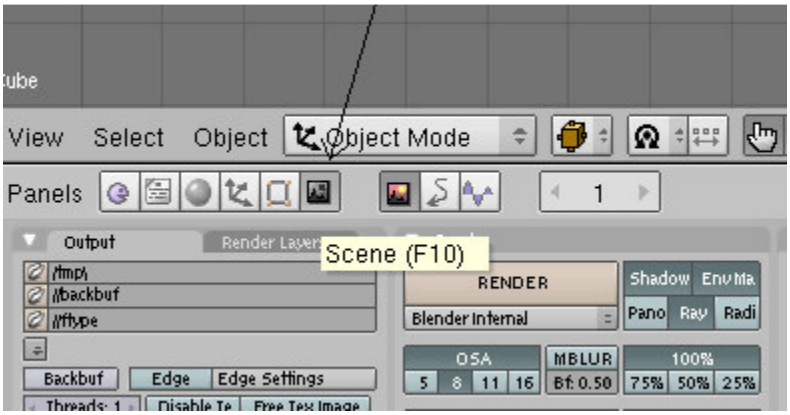




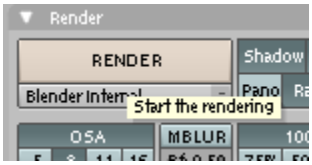
Rendering

Once you are done with your object you might want to **Render** it. Make sure your camera is positioned properly (use what you learned earlier to see the camera's view and move it like any other object to get it to the proper position)

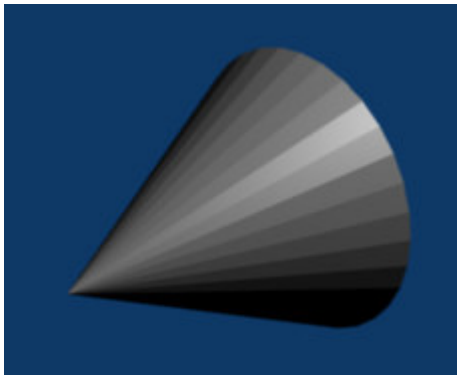
Once the camera is positioned correctly go to the **Scene** panel. You can also just hit the '**F10**' key to get there.



Now you will see a big button **Render**. Just click that and it will render what you have in the camera's view.



You will get something like this:



That is it for this tutorial, but this is not it for the Blender Basics Series. There are a wide variety of free tutorials available and on the way, take a look here:

www.Winterbrose.com

If you enjoyed this tutorial and would recommend it to a friend, feel free to give it away to anyone you like. For more information or if you have any questions contact us at:

support@winterbrose.com