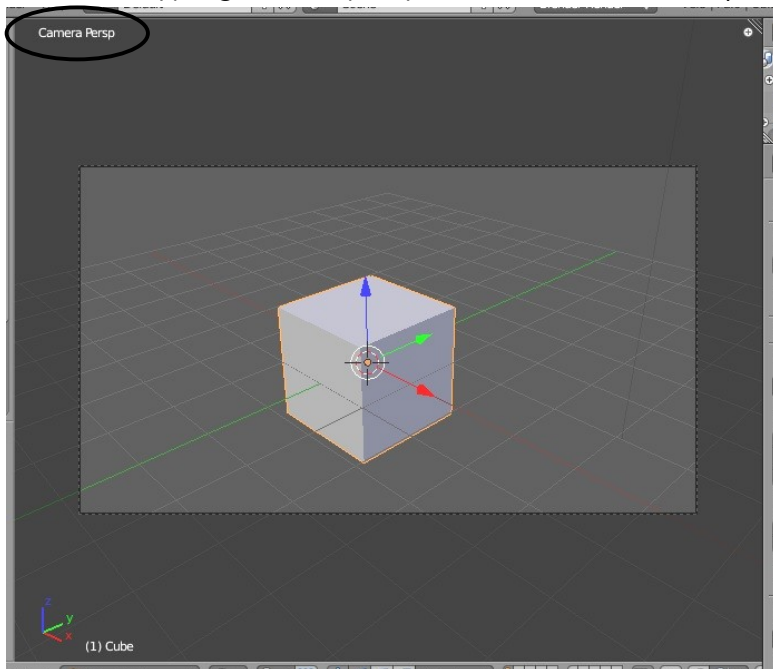


Chapter 2- Working with Viewports (windows)

Moving Around in 3D Space

In a 3D program, not only do you have to worry about where you are in 2 dimensions (height and width), but you also need to consider depth (how close or far away). Before you can work in 3D space, you should have some skills in 2D drawing and layout.

Moving around in the 3D window is controlled by the mouse and the keyboard number pad (NOT the numbers across the top of the keyboard- these change layers). Think of a standard 3-view orthographic drawing- top, front and right side views. These views match up with the number pad **7,1 and 3 keys** (look at their arrangement on the keyboard- just like the views). Put your cursor in the 3D window and try typing those numbers. Typing "0" will put you into camera view (what the camera sees).



By default, the camera is represented by a single line, representing the edge of what is rendered and shaded to the outside. You also have the option of turning on an additional dashed line box to represent a *Title Safe* box (helpful in planning). Changing these settings will be discussed in a later chapter. You will also notice a small note in the upper-left corner of the viewport telling you the view name and if it is orthographic or perspective.

The number pad 5 key will always toggle you between perspective and orthographic views. The number pad arrow keys (2,4,6,8) will rotate you around in 3D space. The "+" and "-" keys on the number pad will zoom in and out. The number pad "." (period) key will center your view up on the selected object on your screen. **"Ctrl" and 7,1, or 3 will give the opposite view.**

The mouse serves a number of functions. The Left Mouse Button (LMB) will move the 3D cursor around on the screen and for dragging windows for selecting objects. *Wherever the 3D cursor is located is where the next item you create will be placed.* The 3D cursor serves other purposes that we will discuss later. The Right Mouse Button (RMB) is used to select object or vertices (in edit mode). The mouse wheel serves 2 purposes. Scrolling the wheel zooms in and out (like the + and - keys). Holding down the mouse wheel will let you rotate the view. Holding down Shift and Mouse Wheel will let you pan around on the screen.

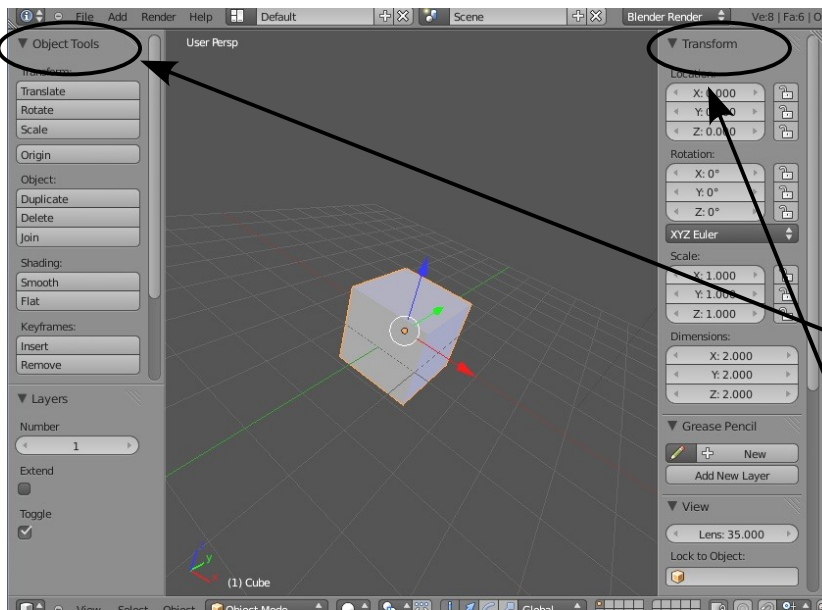


RoboDude Says:

Practice using these controls before moving on to other lessons. Without getting a grasp on working in 3D space, you will have a difficult time creating and modifying objects.

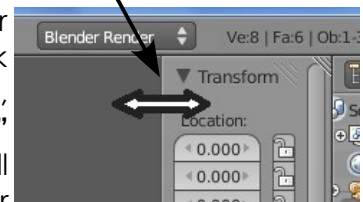
Chapter 2- Working with Viewports (windows)

Window and Button Control



So now you know how to save your Blender file and move around in 3D space. We're still not really able to create anything yet, but soon. You have a default screen with several viewports. You may have noticed that along with the *Tool Shelf* on the left side, you can also have a *Transform* panel on the right of your viewport. These are definitely useful panels as you will soon see, but they take up a lot of space. You can minimize them by

dragging on the edge of them with the LMB while your cursor looks like a left/right arrow. So how do you bring them back out when you need them? With your cursor in the 3D window, you could type "T" for the *Tool Shelf* or "N" for the *Numeric Transform* panel. This will open the panels up again (pressing either button a 2nd time will close the panel up). You can also click on the small "+" symbols at the sides of the viewport to open them.



The 3D View Window Header:

A lot of the key commands we will talk about in the book can be controlled in the Window Header. Some of the common operations found there are:



Scrolling in the Properties Panel:

You may notice that many of the buttons and panels are off the screen. Accessing those buttons can be done by holding down your mouse wheel (like it's a button) and using it to pan



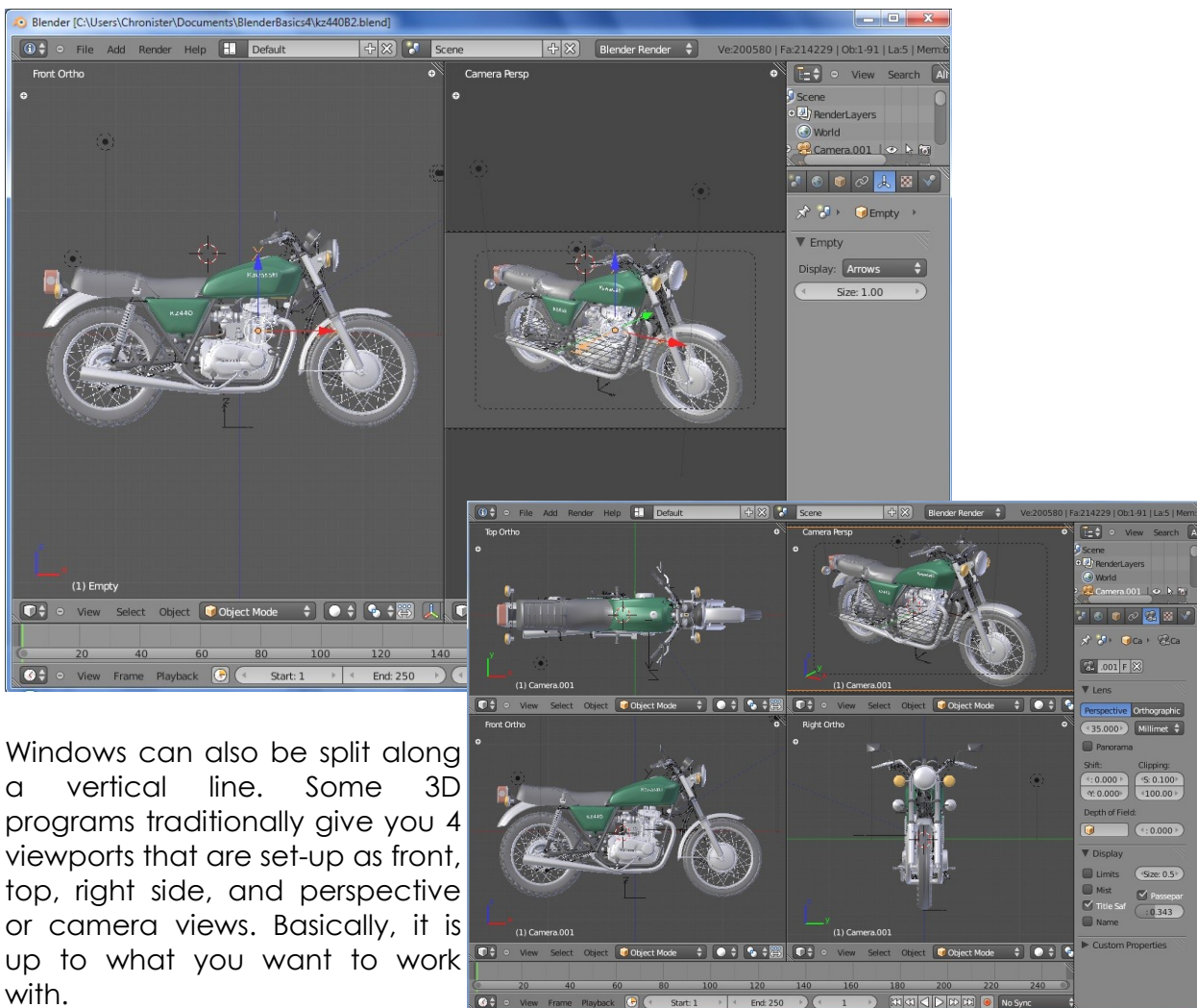
left-to-right. The same can be done to access the panels below the buttons. You can also use the "+" and "-" keys on the number pad to zoom in and out on the panels.

Panels can also be minimized and maximized to take up less space by clicking on the small triangles found on each.

Chapter 2- Working with Viewports (windows)

Creating Viewports (also called windows)

Most times, you need more than one 3D window to work with since you're trying to locate objects in three dimensions. Most rendering and animations programs allow for multiple viewports along with graphical views of various data. Blender allows the same. Remember that Blender starts with 5 viewports, but only one 3D View window (discussed on pages 1-1 and 1-2). You can change the size of any of these windows by using the LMB and dragging on the line between the viewports. In order to split a viewport, move your cursor over the *small triangle in the upper right* corner of the 3D View Window. When the cursor turns into a "+", drag with your LMB to split your screen into 2 viewports. Joining viewports together works the same way. Click on the triangle and drag over the viewport you wish to remove. There's no limit to the number of times you can split your windows. I like to traditionally work with 2 views like the example shown below. I use the left view to flip between my principle views (top, front, side) and the right view for camera view and animation tracks (which we'll discuss later). In the view shown below, I've minimized the Tool Shelf and Transform Panel to maximize screen space.

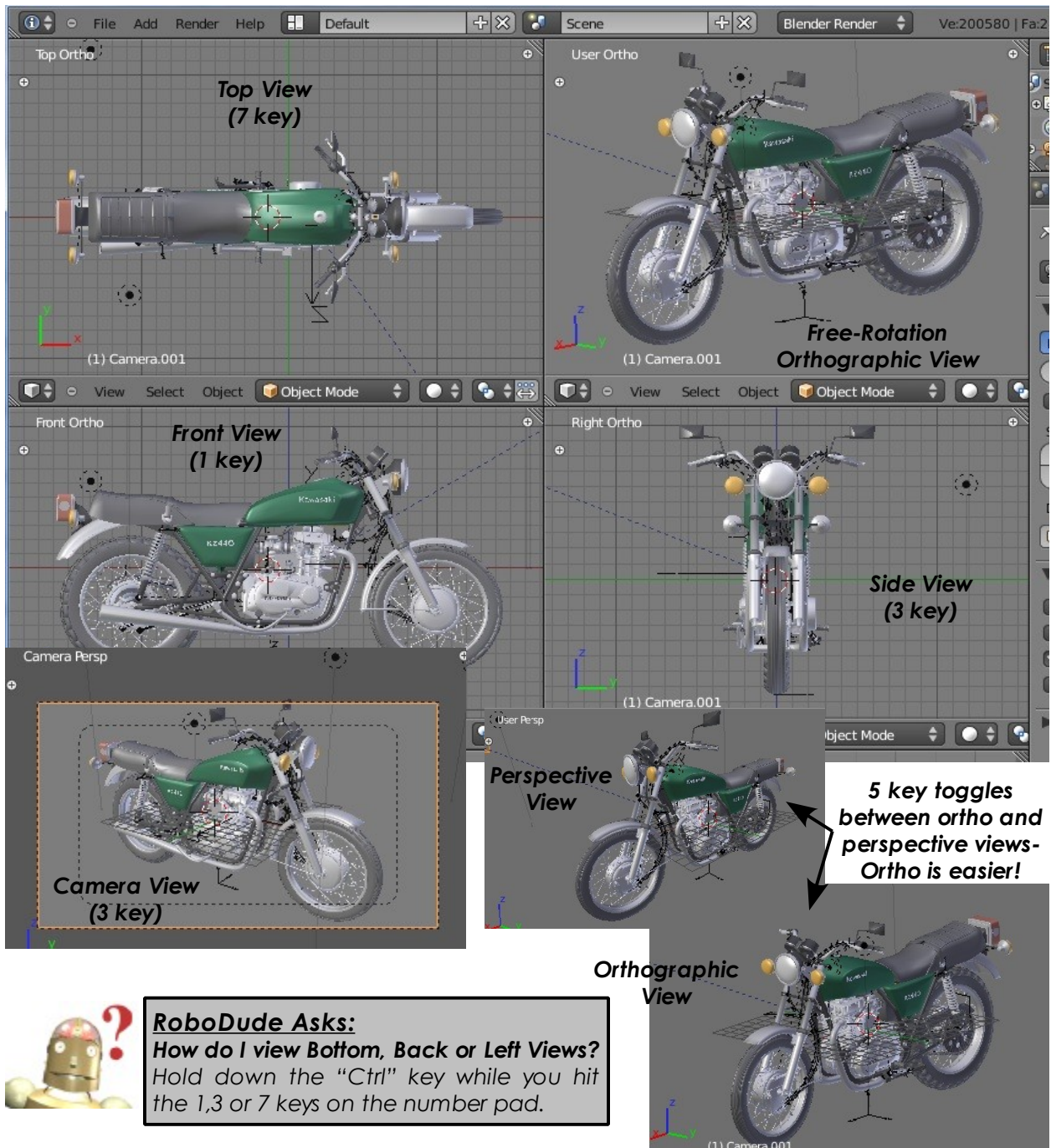


Windows can also be split along a vertical line. Some 3D programs traditionally give you 4 viewports that are set-up as front, top, right side, and perspective or camera views. Basically, it is up to what you want to work with.

Chapter 2- Working with Viewports (windows)

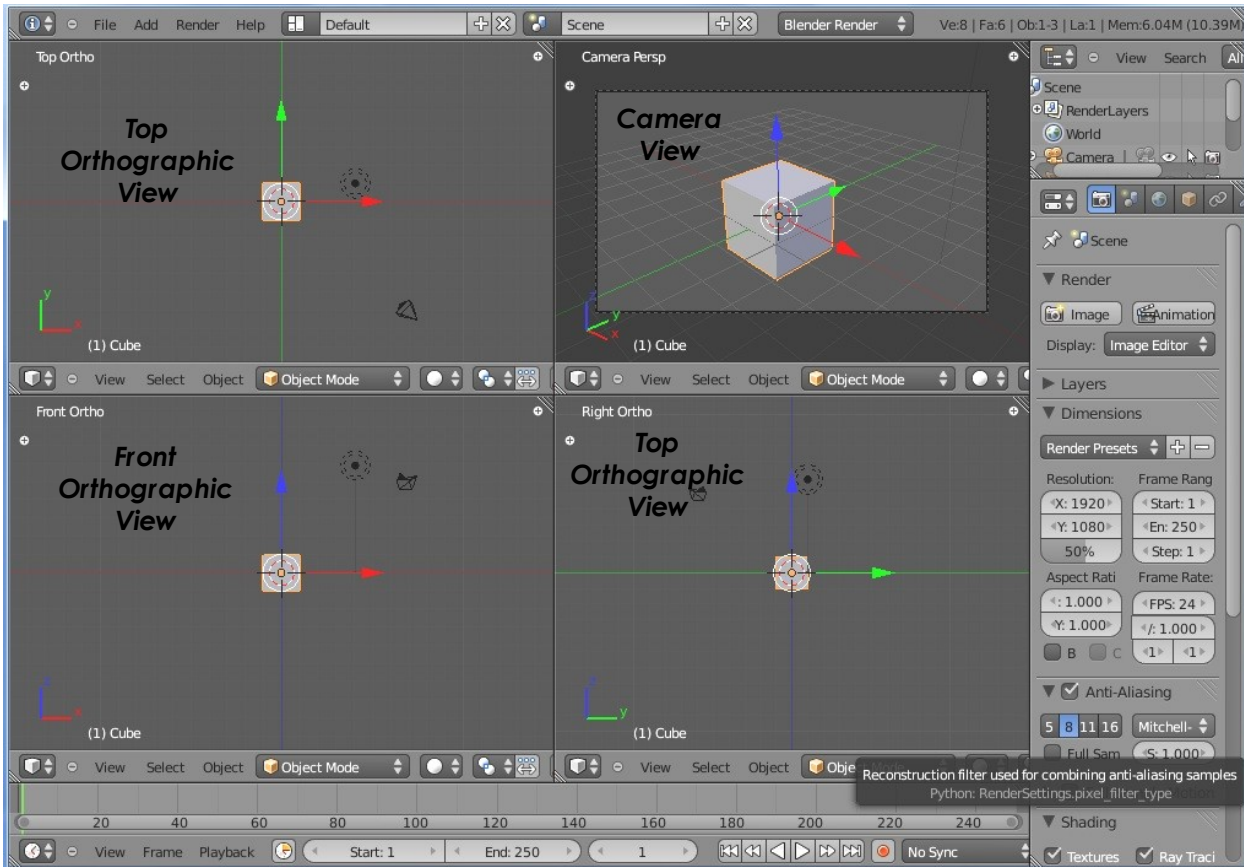
Typical Views and Buttons:

Here are some typical views used to model in 3D and the buttons on the **number pad** to go along with them. In order to make them work, you need to have the "Num Lock" button pressed. Get use to working with the principle views (top, front, side) in orthographic mode when locating the 3D cursor. You will usually need to check the location of the cursor in at least 2 views when placing objects. New to Blender 2.6 is that the name of the view is displayed in the upper left corner of the viewport.



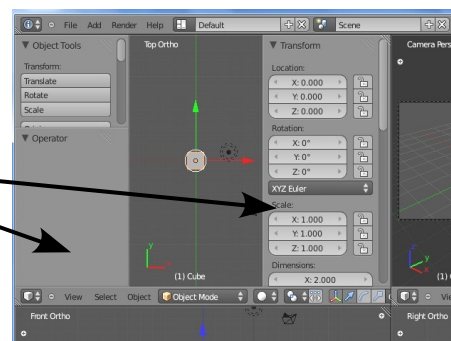
Viewports Practice Exercise

In order to get some experience with these commands, set up a screen with four viewports using a top, front, side and camera or perspective views as displayed below:



Be prepared to be able to demonstrate the following techniques to the instructor when asked:

- *Panning around on the screen, scrolling the buttons/panels*
- *Zooming*
- *Changing window types*
- *Centering the view on a certain object*
- *Switching views (top, front, side, camera, free-rotate)*
- *Opening and closing the Tool Shelf and Transform Panel*



**** Call the instructor when finished****