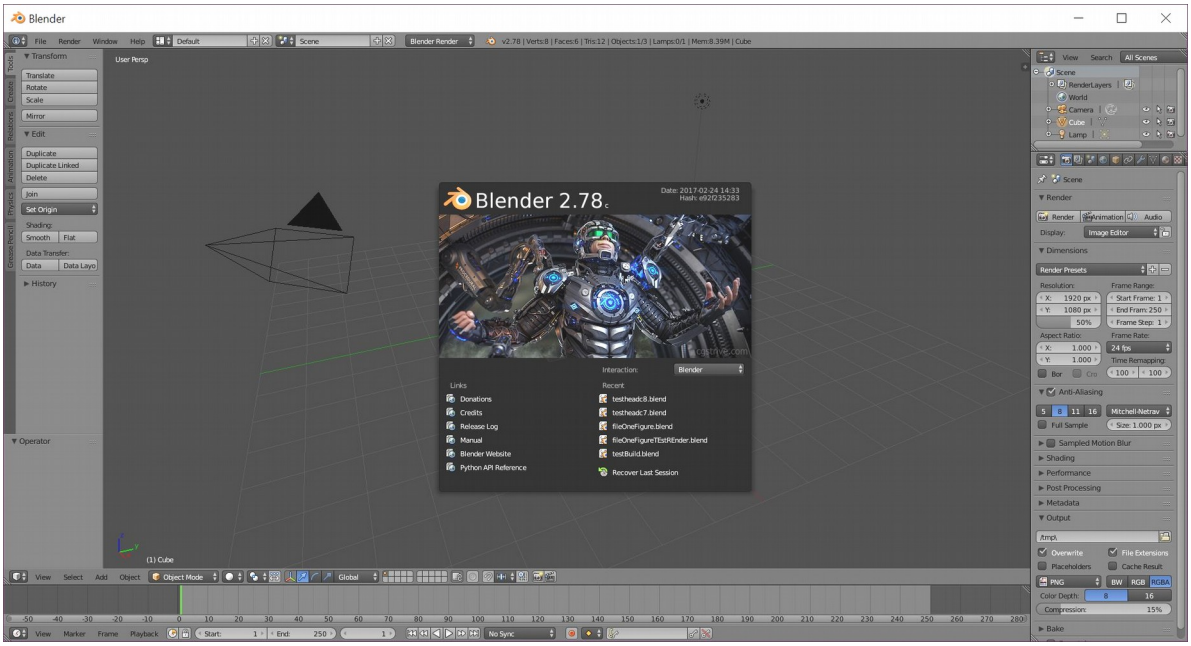
This brief tour of the Blender interface applies specifically to version 2.78c, but will apply reasonably well to versions later than 2.60. As of this writing, version 2.79 has been released. Some interesting new features have been introduced, but very little has changed with the interface. Be forewarned that version 2.80 will include many changes to the look and feel of Blender in addition to some changes in workflow and functionality.

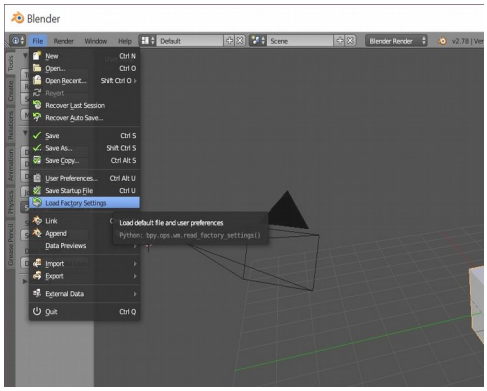


Blender 2.78c startup with splash screen

Click anywhere to get rid of the splash screen.

For this tour, we will use the default factory settings.

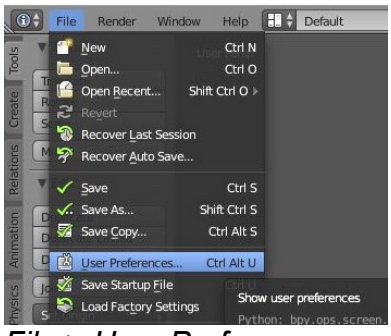
File > Load Factory Settings



File > Load Factory Settings

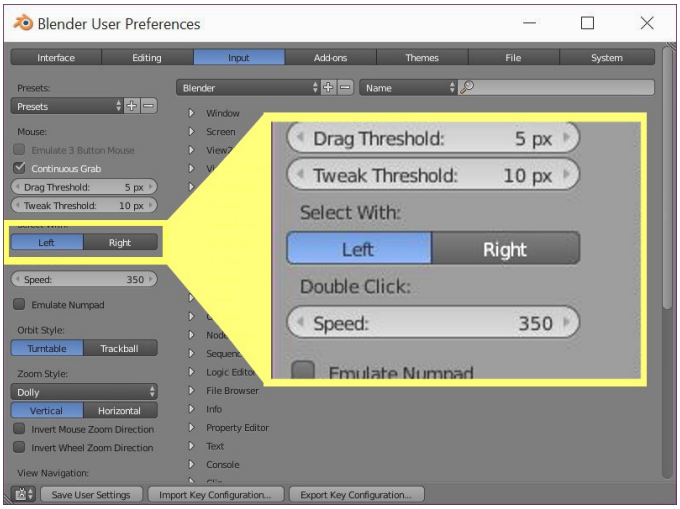
By default, Blender uses the *right* mouse button for selecting objects and the *left* mouse button for placing a special cursor in 3D space. If you are new to Blender, you may want to swap the left and right mouse button functions. To do this, we open the user preferences dialog.

File > User Preferences



File > User Preferences

Through the User Preferences dialog, nearly everything is customizable. Themes, shortcut keys, input devices, render cards, file folder defaults and Add-ons can be selected and adjusted here.



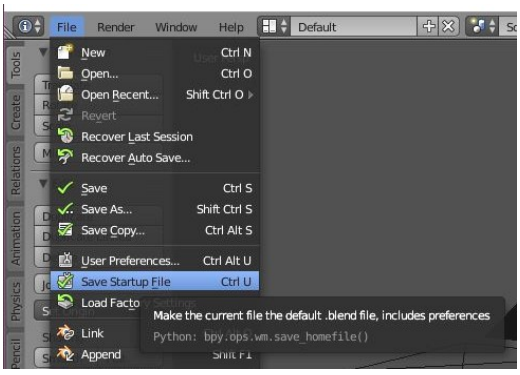
- Under the Input panel, change “Select With:” from Right to Left.

- At the bottom of the User Preferences dialog, click Save User Settings.

There is one more setting to change. The heart of 3D rendering is the *render engine*, the set of internal instructions that tells the software how to handle lights and materials. By default, Blender uses the older Blender Render engine. The newer Cycles Render engine is more powerful and complex, giving us more control over lighting, materials, camera settings and more. For fulldome rendering specifically, Cycles can render fisheye images directly.

Near top center, click Blender Render and from menu select Cycles Render.

- Save startup file. We can do this through the menu or using the keyboard shortcut Ctrl-U.



Note that many menu selections also list the keyboard shortcut, and that tooltips describe the function but also reveal the underlying Python code. These features can be disabled in the User Preferences.

We will set up the fulldome camera and save additional settings after the tour.

The Blender Interface is consistent across platforms so there are very few differences if you frequently switch off between Mac, Windows and Linux systems. Some operating system shortcuts interfere with default Blender keyboard shortcuts, so we'll include both keyboard and menu methods in our instructions.

The Blender online manual is an excellent resource and is quite worthy of bookmarking or downloading.

http://docs.blender.org/manual/en/dev/

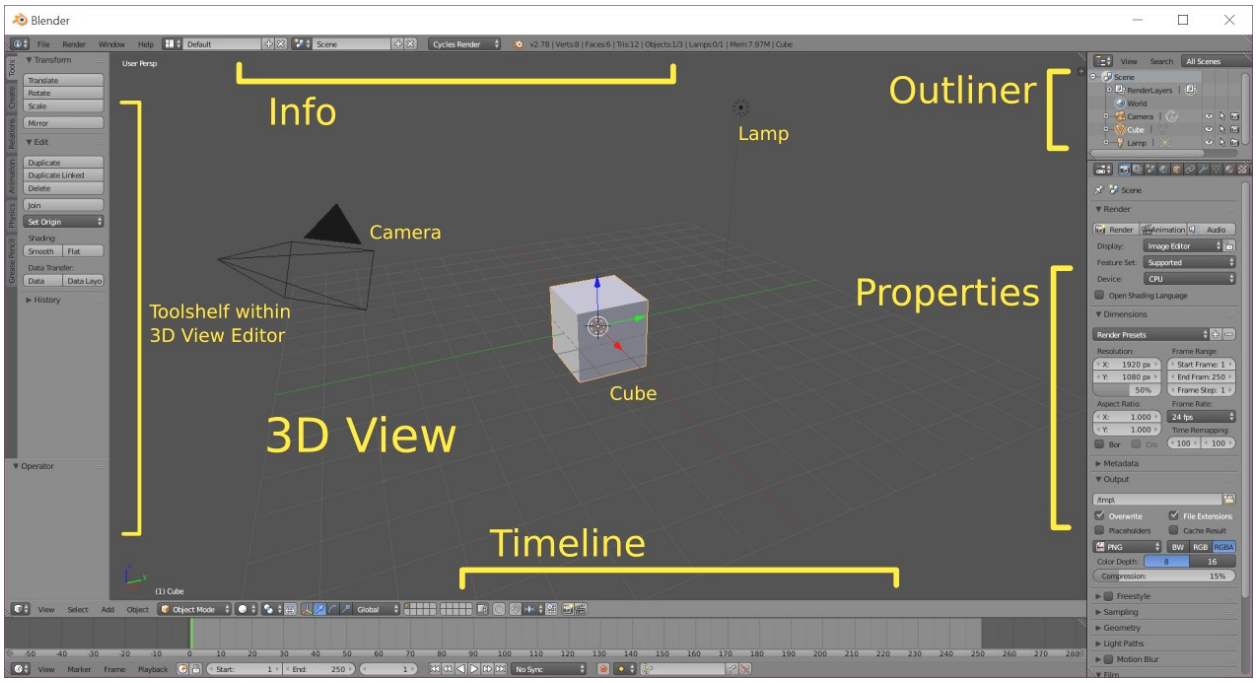
Most boxed off areas are separate windows. *Windows* are used to contain *Editors*. Editors can have their own *toolshelves*, *tabs* and *panels*. Terms windows, editors, regions and viewports tend to be used interchangeably by many in the user community worldwide.

Screens are saved layouts. You can make and save your own, plus there are several premade screens available. We'll mostly use the Default, Compositing and perhaps the Animation screens in this workshop. Additional screens are preset for Video Editing, UV Editing, Game Logic, Motion Tracking and Scripting.

Shortcut Tip:
To quickly navigate the available screens use Ctrl and left or right arrows:

Ctrl → and *Ctrl* ←

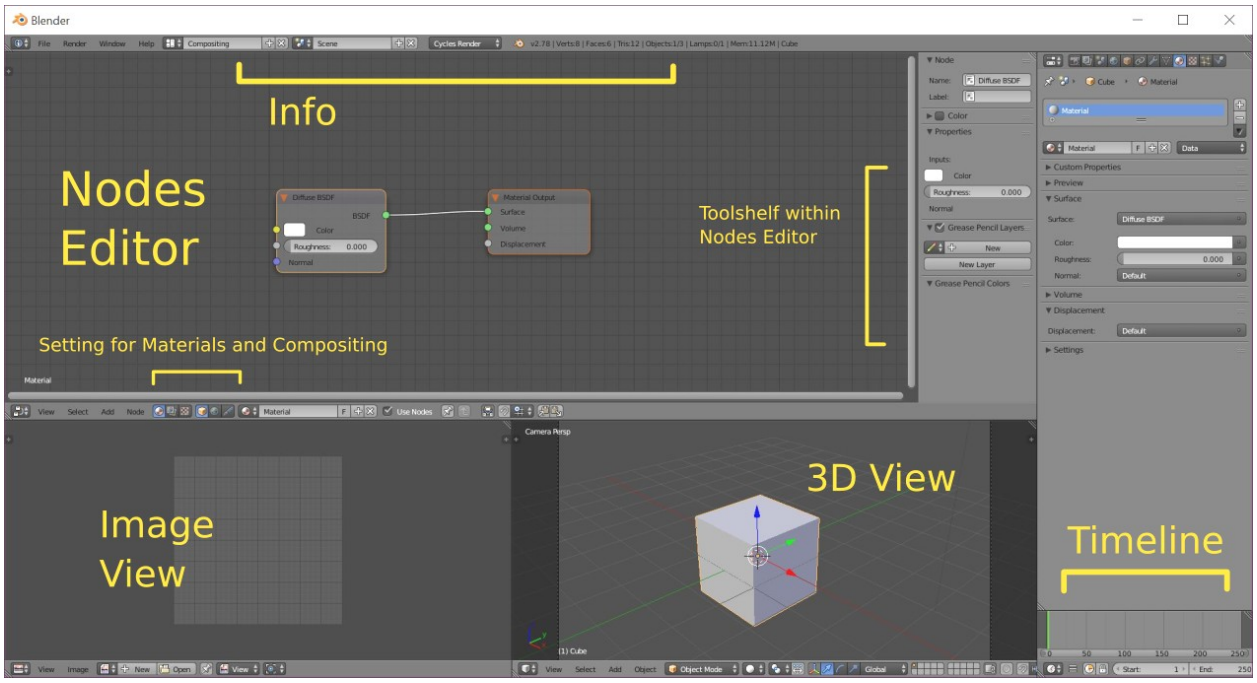
Default Screen



In the Default screen, the viewport areas contain the editors 3D View, Outliner, Properties, Timeline, and Info.

- The Info editor looks like a top menu toolbar, but is part of a hidden window.
- The Outliner shows hierarchy, object types and visibility status.
- The Properties editor contains pretty much all settings other than the user settings. Tabs for each property type change depending on the type of object selected. The tabs are further divided into panels.
- The Timeline editor can be set for seconds or frames. The scene can be put into motion forward or backward, and some settings here are duplicated from in the properties panel. For instance, changing the start or end frame in the Timeline will also change it in the Render tab of the Properties editor.
- The 3D View Editor (“viewport”) is where we spend a lot of our time. Here models, cameras, lights and more are created, modified, positioned and animated. Actions are performed using mouse, keyboard shortcuts, menus, tabs on the tool shelf or combinations. More on the 3D View later in the tour.

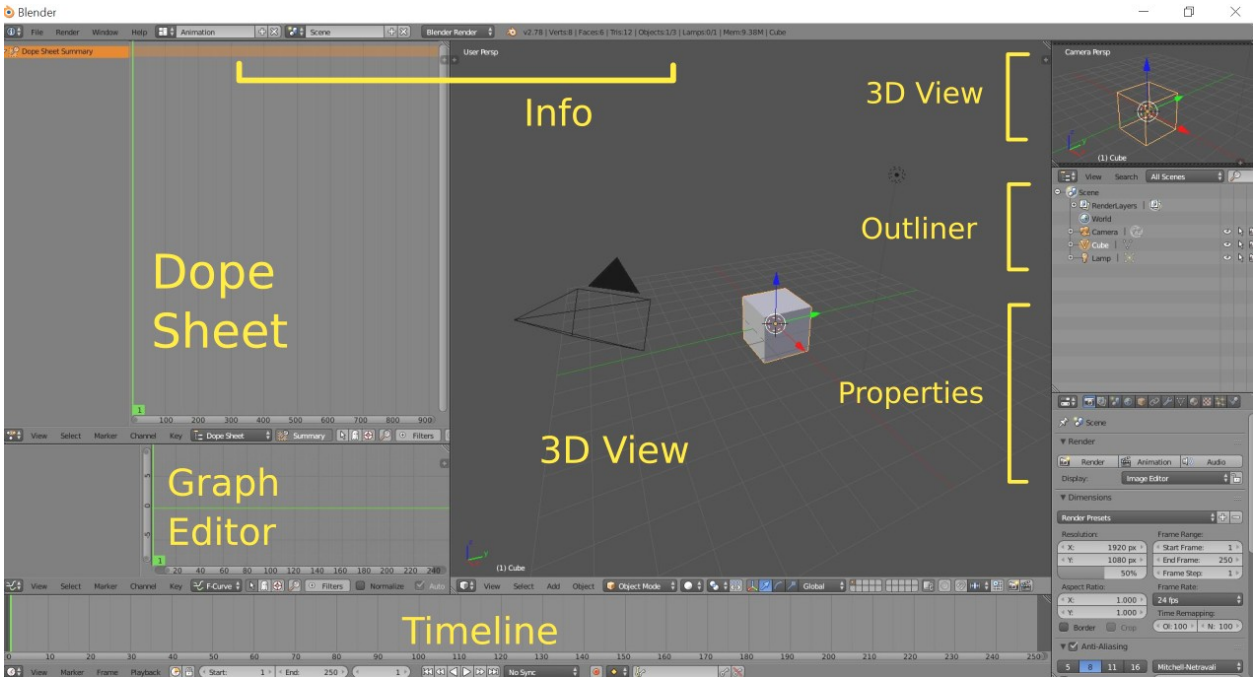
Compositing screen



The Compositing screen is not only for compositing. It contains the Info, Properties, Timeline and 3D View editors. It also features the UV/Image editor for viewing render and composite results, and it prominently features the Node editor. The Node editor is useful for:

- Compositing multiple layers, scenes, videos, image sequences… Many compositing functions can be performed in this node-based system.
- Object materials can be set here. A variety of shader types are available. They can be setup through the Nodes editor and to some extent through the Properties editor. Materials can be mixed a variety of ways using both procedurally generated or premade image textures. The best part is that everything can be animated.
- World materials can be set here. World in this case refers to the full 360 degree sphere surrounding your scenes. The World materials can be 360 degree by 180 degree images, they can be procedurally generated, or even a mix of the two. World materials, too, can be animated, as we shall see.

Animation screen



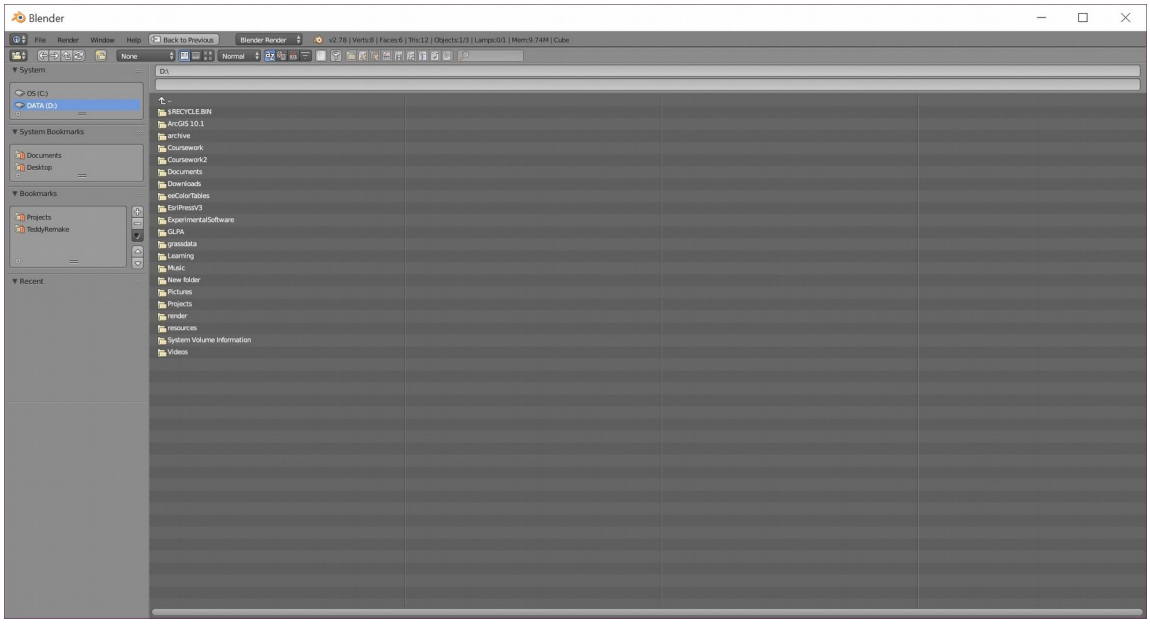
The Animation screen is handy both organizing and tweaking the characteristics being animated. It contains the Info, Outliner, Timeline and Properties editors along with two 3D Views, plus two animation-specific editors, the Dope Sheet and the Graph Editor.

Screen layouts can get very, very busy. It simply isn't possible to display all of Blender's functionality at the same time.

Dual Monitors Tip:
To use Blender across dual monitors, duplicate the window, move it to the second monitor and then select a different screen.

Window > Duplicate Window

File Browser

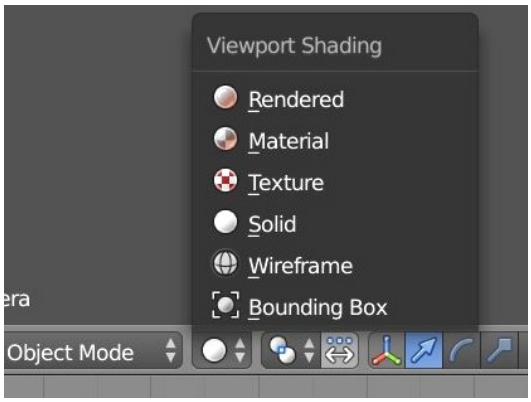


One editor that isn't present on any of the screens but you will encounter frequently is the File Browser. We use it whenever we Save As or Open files, Append from files, Import or Export models, Load image textures, image sequences, python scripts…..

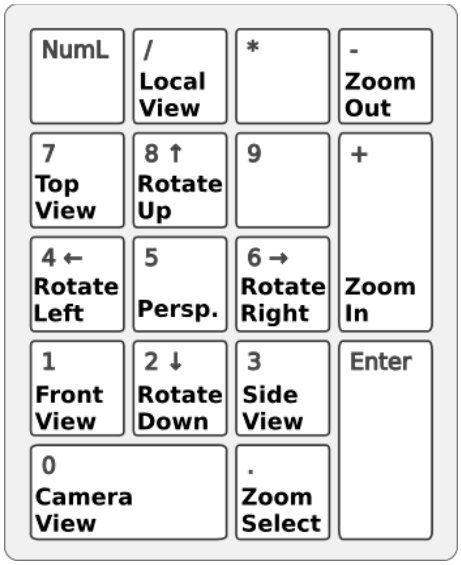
- It can be accessed through the drop-down menu of editor types, but that's not usually necessary given that it will open as needed when the above actions are requested.
- It doesn't look like the folders interface in your operating system, as it was designed to be consistent across the various platforms.
- The default folder locations for types of files (textures, scripts, etc) can be set in User Preferences.
- When the File Browser opens, the Info editor window across the top changes to include a button for "Back to Previous" meaning close the browser and return to the previous Screen layout.
- On the left side is a tool shelf with panels for System folders, recent folders and bookmarks. Any settings specific to the file type and type of interaction will appear as a panel at the bottom.
- The options across the top of the File Browser includes folder navigation tools as well as buttons to create new folder, display image thumbnails and various options for sorting and filtering.
- The main region displays folder contents, both files and subfolders.

3D View Editor

In the 3D viewport, v*iewport shading* affects how we see the objects while working on them.

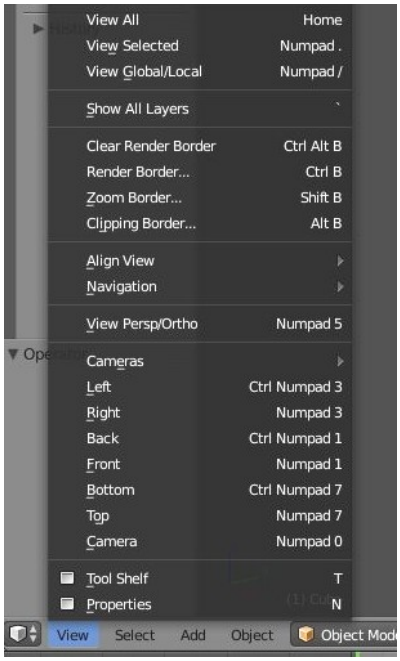


Z to toggle between solid and wireframe mode, Shift-Z to toggle to and from render preview mode. This shading can also be set with the mouse in the 3D View toolbar.



Our viewing position can be controlled through the menu system, but the keyboard shortcuts are well worth knowing. They use the numeric keypad found on most full size keyboards.

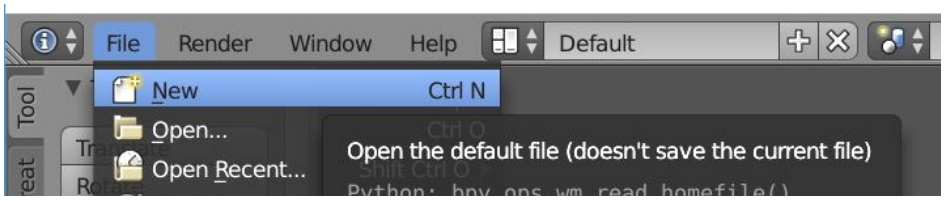
Having a numeric keypad is a time-saver when working with Blender in 3D View.



Start a new Blend file.

For the section we want a fresh file to work with. This will reset our 3D View and anything we changed other than the User Prefrences and Startup File settings.

- Ctrl-N or File > New



- A dialog will pop up asking if it is okay. Hit enter or click “Reload Start-Up File”