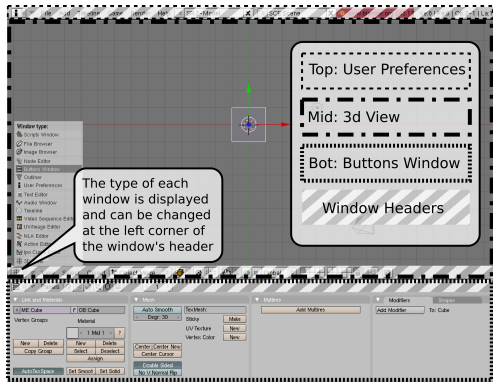


blender quickstart

A. The Interface

The blender interface consists of fullscreen workspaces. Each workspace is divided into multiple windows. The default workspace is the "modelling" workspace and is divided into three windows:



To change the layout of a workspace you can adjust the size of the windows by dragging the limits between them. You can also add and remove windows by splitting or joining existing windows. To do that, right-click at the limits of the window you want to split/join and select the appropriate action.

You can maximize/restore any window by pressing **Ctrl-Space**.

[Tools and keyboard shortcuts are relative to the window that's under the mouse cursor at any time.]

B. 3D View Navigation

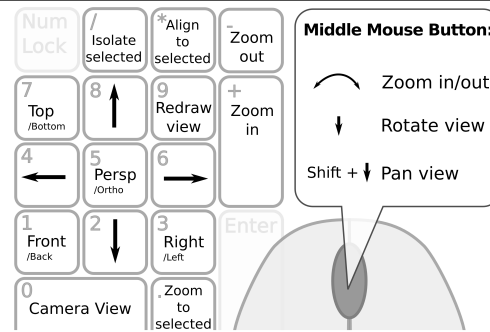
Navigating in 3d space requires 3 types of movement: 3d Rotate (Orbit), Pan and Zoom. These three tasks are accomplished easily with a 3-button mouse in blender.

On the keyboard, the numpad area is also dedicated to viewport-handling tasks.

To change the shading type of the 3d viewport use the Z key (i.e. switch between wireframe and solid shading). To center the view of a window to include all objects use the Home key.

Top, Side and Front orthogonal views include an auto-adjusted grid in the background.

More properties of a 3d view (including background image) can be changed in the "View" menu located at the header area of the 3d view window.



C. Selection Methods

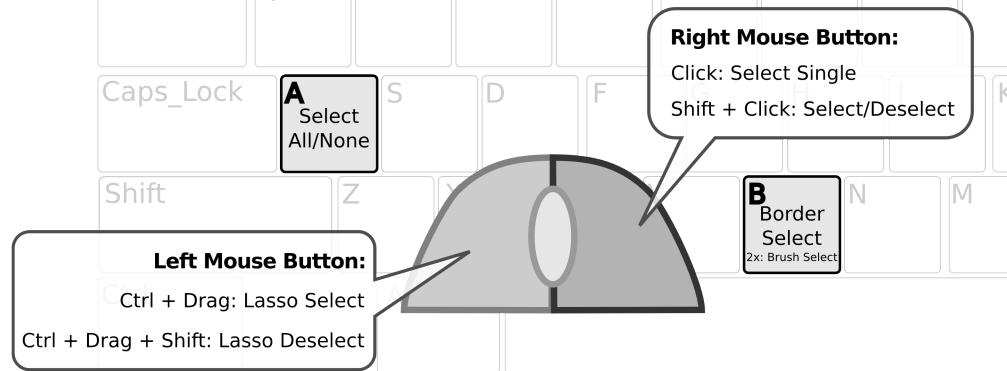
Blender is very flexible in its selection methods. To select a single object you right click on it. To do multiple selection you can shift+right-click to add/remove objects from the selection set.

To use a selection rectangle use B-key(stands for border select). B-key is also used to initiate "brush" selection mode (see G)

One of the most powerful selection methods is the lasso selection where you press ctrl and drag a free hand line around the objects you want to select.

To duplicate objects use Shift-D. To delete objects use X-key.

IN BLENDER WE SELECT WITH RIGHT CLICK!

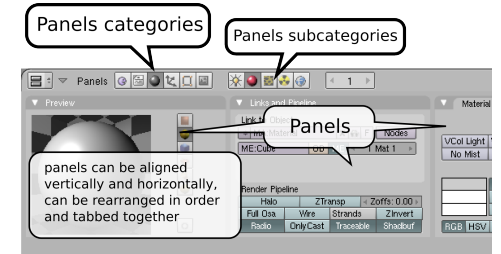


D. Buttons Window

A lot of the commands in blender are accessed through the use of the buttons window.

The buttons window groups buttons into categories. The main categories are: Editing(F9), Materials(F5), Object(F7) and Scene(F10). The different categories are accessed through the buttons in the header of the buttons window. Some of the main categories of buttons have subcategories.

Inside each buttons category the buttons are separated in panels.



E. Object & Edit Mode

Blender separates the handling of the position, scaling and rotation of an object and the modification of its shape in two modes: Object Mode and Edit Mode. You switch modes through the menu in the header of the 3dview or by Tab-key.

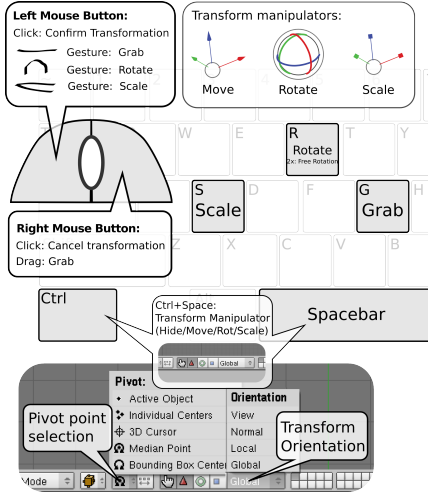
Other modes include pose and weight-paint (character animation) and sculpt (model by painting directly on the mesh).



F. Basic Transformations

There are three universal commands for transformation: grab, rotate, and scale. These can be activated by keyboard short cuts or by dragging the handles of the transform manipulators.

Transforms initiated by keyboard need confirmation (left click/enter) or can be canceled (right click/esc).



By default all the transformations take place along the "global" X,Y,Z axis (orientation of the 3d world). Transformations can also happen along an object's "local" orientation, along the viewport's orientation (z pointing towards you) and custom, user-defined orientations.

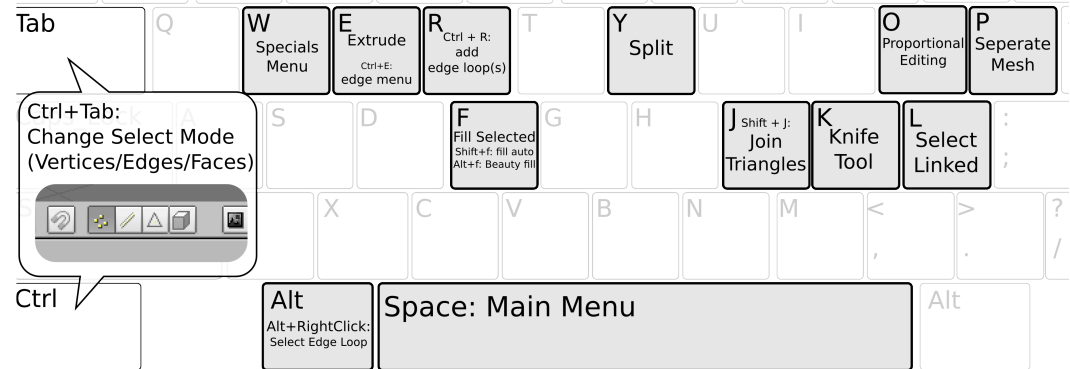
All transformations are calculated in relation to a pivot point which acts like the center of the transformation.

Different combinations of transform orientations and pivot point(s) determine the outcome of a transformation.

G. Mesh Modelling

Mesh modelling takes place within Edit Mode. Meshes are comprised of three elements: vertex, edge, polygon.

Selection can happen on all three levels. Mesh modelling has more selection tools. Selecting separated parts of a mesh is done with the L-key (select Linked). Brush selection, where you select things by painting over them, is initiated by pressing the B-key twice.



Selected elements of a mesh geometry can be manipulated with the basic transformation methods (see F). In addition to these, edit mode provides a lot of operations which allow for adding, removing and affecting geometry.

Extrude duplicates the selected geometry, links the duplicate to the original and initiates grab mode. In order to completely cancel an extrusion you have to press Esc (exit grab mode) and issue Ctrl-Z (undo the duplication).

Other operations are fill, which links geometry, join which joins triangular faces into quads (4-sided faces) and merge, which merges multiple vertices into one. A lot of actions can be performed via the Editing buttons in the buttons window and the specials and edge menus. More operation shortcuts are listed above on the keymap.

Blender allows for selection, creation and removal of edge loops. Edge loops are certain connection patterns between edges of a mesh that enable you to add detail and manipulate it in a non-destructive manner.

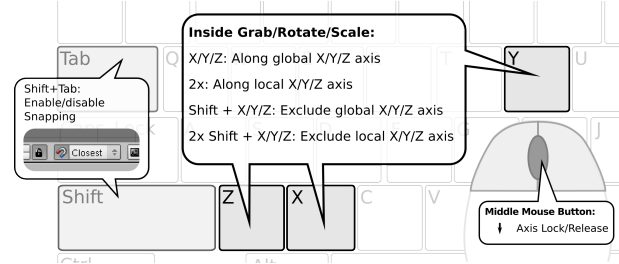
H. Constraints

The basic transformations can be further controlled by constraints and snaps.

A constraint "locks" the transformation on an axis or plane. While in grab mode for example, to move along the the global X axis you can press the X-key. To move it along the selected orientation's X axis press the X-key twice. To move it in the global YZ plane (excluding the X axis) press Shift+X. The same applies to all other axis and transformations.

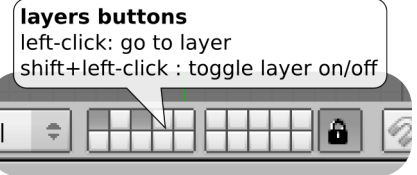
Transformations can be further controlled by using the snapping helper. The most usual snap helper is "closest" which snaps the closest vertex of the selection to another vertex in the scene geometry.

Constraints and snaps can cooperate to achieve more complex tasks that require precision.



I. Layers

Layers help organize a scene by separating objects and controlling their visibility.



J. File Open/Save

In the blender file save/open dialog select files with right-click. A drop-menu of common directories is located at the top-left corner of the file dialog. To quicksave use Ctrl-W (write to file).