

- 1 - Draw following the **axis** as much as possible (be square!).
- 2 - Always **navigate** (middle mouse button): Orbit (press) or Zooming (scroll).
- 3 - Do not hold mouse button down (unless required by the tool).
- 4 - Use the inference system (Snapping). Do no eyeball!
- 5 - Hold down the **Shift key** to lock axis or planes (useful even when drawing simple lines, moving or stretching).
- 6 - Use the **Arrow Keys** on your keyboard to fix planes (Blue Red or Green).
- 7 - Always press 'Enter' after typing measurements (never enter the measurements box).

Remember the SketchUp brain:

Right side: Every line or face intersected must always be split.

Left side: Loves to keep things together, like stretchy glue.

COMMON TOOLS (Click, always means click and release) Rule #3.

SELECTION TOOL

Selects Objects by drawing a virtual rectangle (marquee) or by clicking on elements.

Using SHIFT

Adds or removes objects to the current selection.

Using CONTROL (ALT on Mac)

Adds objects to the current selection.

Using CONTROL + SHIFT (ALT + SHIFT on Mac)

Removes objects to the current selection.

Some extra things on bare geometry (not grouped):

Click once to select one object.

Click Twice to select face and its edges (border).

Click Three times to select all connected geometry.

- From left to right, you must include fully the objects in the marquee.
- From right to left, the object is selected even if just touched by the line.

PUSHPULL TOOL

Use it to extrude objects but also to slice them (Cheese-cut). Don't hold the mouse down when pushpulling. Snap to other geometry for accuracy. Remember to move the mouse cursor into empty space to be free of inference. Use CTRL/ALT to create a new face to pushpull. Double click to repeat the last used distance. Remember, this tool is very powerful and it can generate a lot useful of geometry very quickly!

MOVE TOOL



SketchUp geometry is very elastic, use the Move tool to stretch or squish it. Click on empty space to deselect all objects – then activate the Move tool, this way you can move any object under the cursor. When stretching something, follow the axis if you can (and lock them with the Shift).

OFFSET TOOL



Move cursor inside the face to offset, notice the small red inference by the nearest edge. Click to start the offset - move inside or outside the face - click to finish. You can type the distance (of the gap between the two borders).

HIDDEN GEOMETRY

View > Hidden geometry

This is important to access geometry hidden by SketchUp (very useful when working with curvy geometry).

ERASER



Use it with the CTRL (Command on MAC) to smooth edges. SHIFT to hide.

FOLLOW ME TOOL



This is like the pushpull tool following a path (a set of connected edges).

Prepare a face profile (same as a cross section) and a path. Select the path (use Shift key to select multiple segments). Activate the Follow Me tool and click on the profile face - the face will be extruded along the path.

COPY OPERATIONS (with MOVE TOOL)



Copy operations should 'always' be made with the Move tool plus the CTRL key (PC) or ALT key (MAC)

Activate the Move tool (or press M on your keyboard) - Press CTRL/ALT once (the cursor shows the + sign) .

Click (and release!) on the object to pick it up (choose good snapping points like corners, midpoints etc.)

Click and release again to place the object. Use the SHIFT key to be accurate and do more powerful snappings.

*Note that because **you are not** holding the mouse down, you can orbit or zoom anywhere before placing the copy.*

After an object is copied, the distance can be typed. Also how many copies ('4x' to multiply '4/' to subdivide). The CTRL/ALT key can be pressed even after the move operation is started.

SCALE TOOL



Click on a grip to resize the object. Type scale factor (2 = twice as big) (0.5 = half)

Typing the units after a value will scale the object to precise measurement (250cm)!

Best grips are the ones in the centre of the cube face as they stretch along the main axis.



GROUPS - COMPONENTS

These are powerful because they isolate geometry and keep you organised (and lots more!!!)

When you right-click on selected geometry, choose 'Make Group' or 'Make Component'. The selection will be enclosed into a bounding box.

You can enter a group or component for editing just by double clicking it (with the selection tool). To exit, Click once outside the bounding (or right click > close...).

Groups/Components can be easily rotated with the Move tool by using using the red protractor crosses that appear on each side of the group box.

Groups and components can be broken down again: Right-click > Explode

Groups are individual objects. Components behave like clones (changing one will change the others).

By right clicking on components you can save them to a folder on your hard drive.



IMPORT AND SCALE IMAGES

Images are imported from File > Import > the image is placed in the model with two clicks (like drawing a rectangle). You can also drag and drop the image directly from the desktop.

Once an image is imported, it can be scaled according to a known distance (say wall length):

Activate the Tape Measure > click on one corner > click on the other corner > type the known distance > Enter. SketchUp will scale it 1:1.

SketchUp does not use gif files. Also JPEG must be renamed to JPG for SketchUp to import.

Working with PDF directly is possible but it is preferred to extract the image as a jpg and load that instead.

Best resolution for imported images is 2048px.

- The CTRL/ALT key will enable copy for 'Move', 'Pushpull', and 'Rotate' - Double clicking repeats the last distance both on the 'pushpull' and the 'offset'.

- Use 'Zoom Extents' to centre the view of the whole model to the screen.