

Introduction to Google SketchUp (PC Version)

This guide is handy to read if you need some basic knowledge to get started using SketchUp. You will see how to download and install Sketchup, and learn how to use your mouse (and what kind of mouse you need). You will also get a basic overview of the user interface, and learn how to use many of the basic SketchUp tools.

Downloading and Installing Google SketchUp

1. Google SketchUp is free and easy to install. Go to the website **www.sketchup.com**. This is the site that will appear in your browser's address bar:

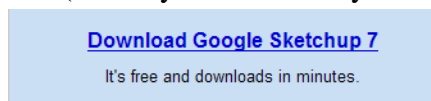


(This website is updated often, so what you see on your screen might not match what's shown below.)

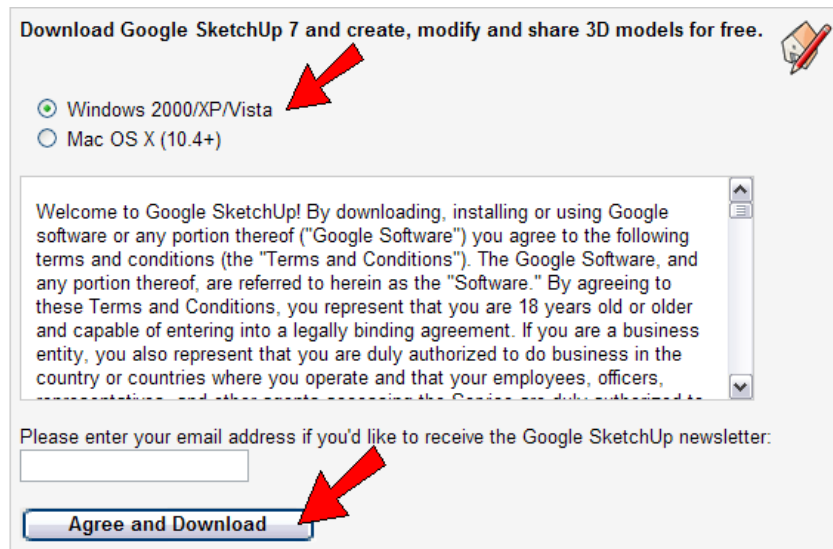
2. On the web page, find and click the link for **Download Google SketchUp**.



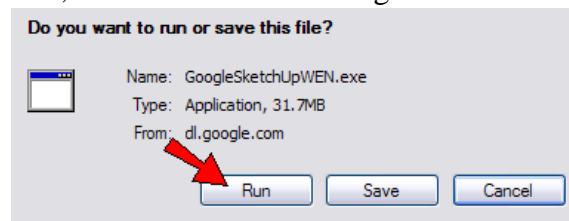
3. Then click the link for the free version (unless you want to buy the Pro version).



4. Click the button for Windows, then click the **Agree and Download** button.



5. When you see a window like this, click **Run**. This will begin the download and installation automatically.



6. At the end, this icon should appear on your desktop (the screen that you see on your computer when no other programs are showing):



7. To start SketchUp, all you have to do is double-click this icon. (This means quickly clicking on the icon twice, using your left mouse button.)

The Mouse

You might already have a perfect mouse, but if not, you should get one! What you should have is a three-button, scroll wheel mouse. Here are some examples:



If you are using SketchUp on a laptop computer (also called a “notebook”), you might not have a separate mouse. Instead, you may have a track pad with two mouse buttons, like these examples:



It is quite difficult to use SketchUp properly on a laptop, with buttons and pads like these. So you really should attach a “real” mouse to the laptop.

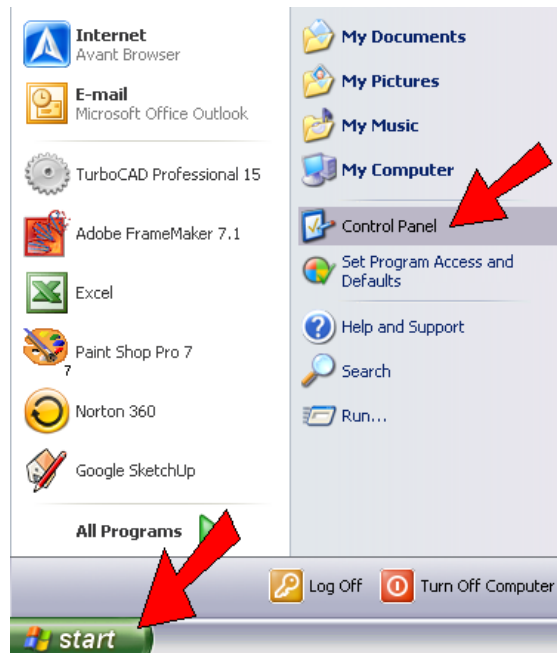
Using a three-button wheel mouse has two huge advantages:

1. The scroll wheel can be used to zoom in and out (making the objects appear larger or smaller).
2. The middle mouse button can be used for orbiting (spinning the model around). If you have a scroll-wheel in the middle, the scroll wheel IS the middle mouse button - you can both scroll it and click it.

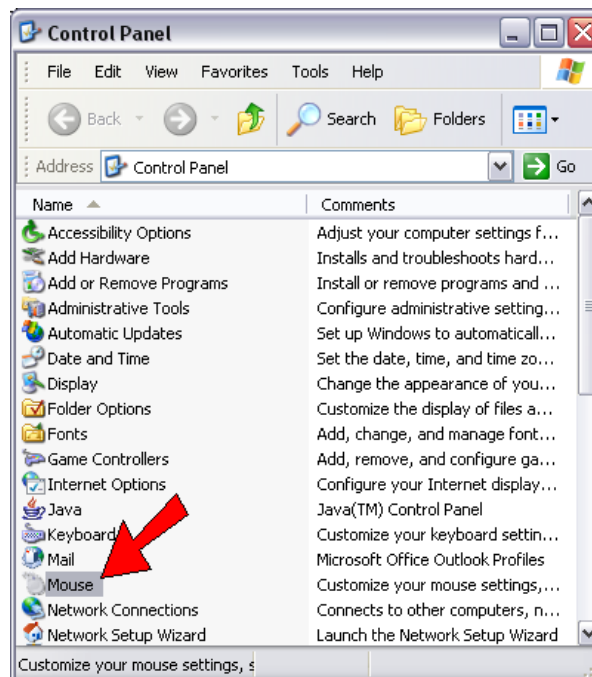
The right mouse makes it easy to move around in your model - it’s a good deal harder to maneuver around with a “lesser” mouse!

If you install a new mouse, it comes with setup software, which you can use to set what each mouse button does.

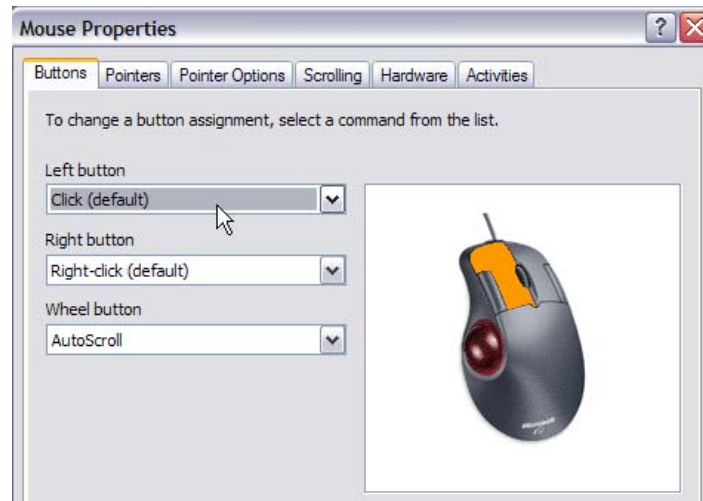
If you already have a mouse, and you want to change what its buttons do, open your Control Panel. (To do this, first click the **Start** button at the lower left corner of the screen. Then click **Control Panel**.)



In the Control Panel, double-click on **Mouse**.



The settings for your mouse may look different than this, but the options should be similar.



Make sure you set:

- Left button = click
- Right button = Right-click
- Wheel button = Scroll (yours might say “AutoScroll”)

If there’s a separate option for Middle Button, set it to “Middle-click.”

Some mice have extra buttons, such as small ones on either side. You can set one of these to double-click, which will save your clicking finger from some extra work! (SketchUp uses a lot of double-clicking.)

Choosing a Template

When you start SketchUp, the **Welcome to SketchUp** window appears. If you click the **Learn** page, you can access SketchUp's online documentation and videos. You can also select a template, which determines (among other things) your model units, face and background colors, and the opening camera view. Click the **Choose Template** button.



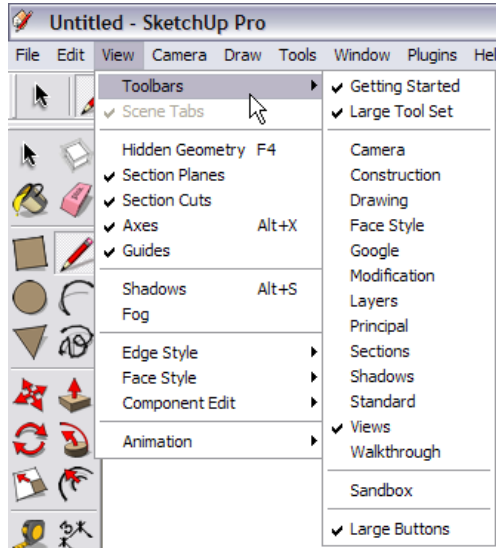
If you want your model to open in **Top** view, scroll down the template list and choose one of the “plan view” templates.

Click the template you want to use, then click the **Start using SketchUp** button in the lower right corner.

The template you pick will be the one used every time you open SketchUp, until you pick a new one. You can also change the template while SketchUp is already open, by choosing **Help / Welcome to SketchUp**. (The new template you choose this way won't change the template of your current file, but will appear the next time you open SketchUp.)

Toolbars and Icons

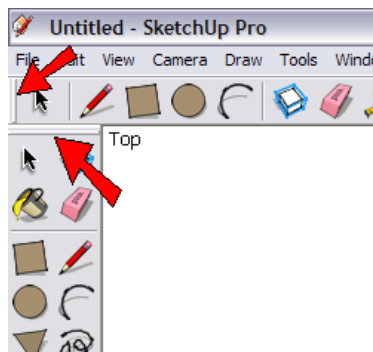
You want to make sure you can see the icons for all the tools you'll use. To set which toolbars are displayed, choose **View / Toolbars**. Toolbars that are already displayed have check marks. The toolbar that is displayed automatically is **Getting Started** (the long horizontal bar across the top). You might also want to display **Large Tool Set** (the wide, vertical toolbar along the left side), and **Views** (especially if you do a lot of work in 2D).



(You can display all of the toolbars if you want, but your screen might look crowded.)

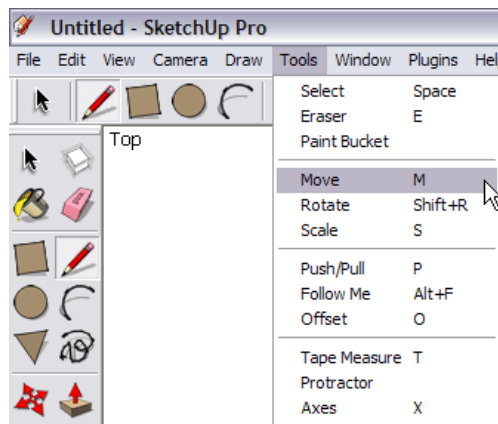
If any of the toolbars you want to see are not displayed, just click on the toolbar name in the menu. To display or hide another toolbar, you'll need to choose **View / Toolbars** again.

Also, you can move toolbars to different locations, by clicking and dragging the little vertical bar at the left or top.



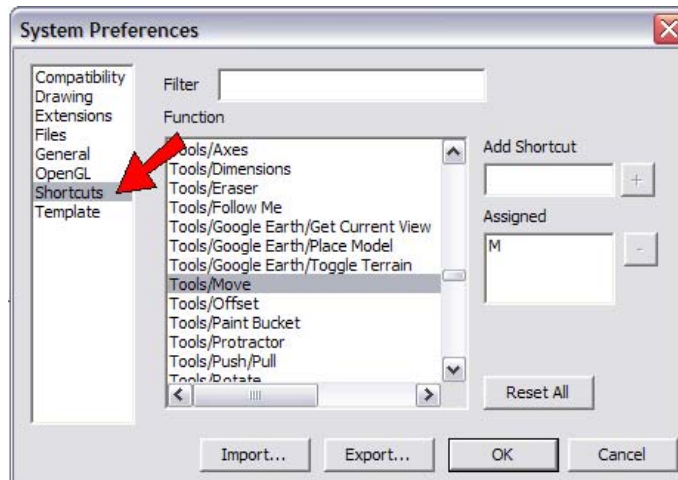
Keyboard Shortcuts

If you don't feel like clicking icons or going the main menu each time you want to use a tool, you should get to know the keyboard shortcuts. If you look at the menus, you can see the shortcuts listed next to each tool (for example, "M" for **M**ove, or "E" for **E**raser). Your menu might look different than this one.



To use a shortcut, just press the letter or key on the keyboard. So if you want to use **M**ove, just press the M key. This is really useful for tools you use very often, such as **S**elect (whose shortcut key is the Spacebar).

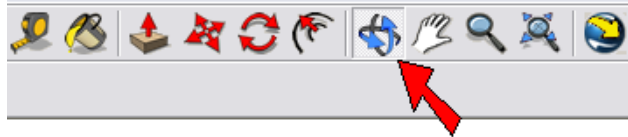
If you want to change a shortcut to a different key, or set a shortcut for a tool that doesn't have a shortcut, choose **Window / Preferences** and open the **Shortcuts** page.



Zooming, Panning, and Orbiting

It's crucial in SketchUp that you understand how to explore around in your model. There are icons for zooming, panning, and orbiting tools. But to make it really easy to move around, ***you really, really need a three-button scroll wheel mouse***. With the right mouse, you never have to click any of these tools - you just use your mouse buttons and (sometimes) keys on your keyboard.

Orbit



Orbiting is like holding an object and turning it around. When you use this tool, click and hold the mouse button and move the mouse around. Where your cursor is on the screen will be the center of rotation. It takes some getting used to, so try using **Orbit** with your cursor in different places.

Here's a much easier way to orbit: If you have a three-button mouse, just press and hold the middle mouse button while moving the mouse. You can even do this if you're in the middle of using another tool - when you release the middle mouse button, you're back in the tool you were already using.

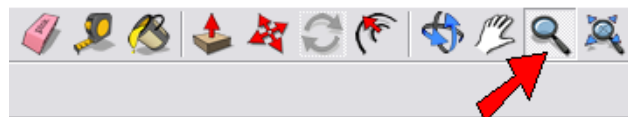
Pan



Panning means sliding your view up or down, left or right. It's similar to moving a piece of paper across a desk. To pan the view, activate **Pan** and hold and drag the mouse.

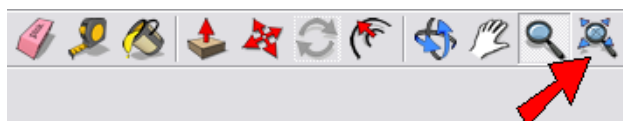
If you have a three-button mouse, you can pan by pressing Shift while orbiting. This means holding the middle mouse button, pressing Shift, and dragging the mouse.

Zoom



Click and drag the mouse up to zoom in, down to zoom out. With a wheel mouse, you can scroll the wheel up or down to zoom. If you are using your scroll wheel, place your mouse where you want the zoom to be centered. It sounds confusing, but try zooming with your cursor in different places, to see what I mean.

If you zoom so far in or out that you can't see your model anymore, click **Zoom Extents**. That will fit everything back on your screen.

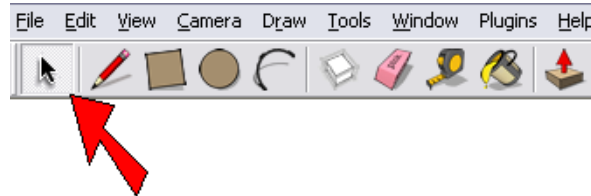


Review of Basic Tools

All of SketchUp's drawing and editing tools are available from the main menu, and many of them appear on the **Getting Started** toolbar, across the top of the screen. All of the tools described here also appear in the **Large Tool Set** toolbar. And most can be activated by a shortcut key, too.

Select

Menu: **Tools / Select**, shortcut: Spacebar



You need to select objects (edges and/or faces) before the objects can be moved, copied, scaled, etc. You can also use **Select** to erase objects: **Select** them, then press the Delete key.

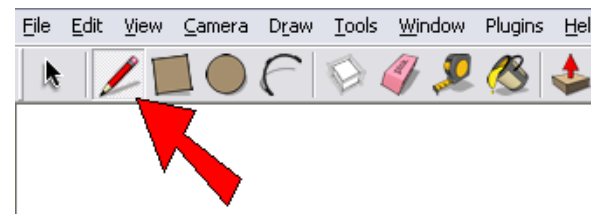
When you activate **Select** and click on an object, it will be highlighted in blue. You can select more than one object by pressing Shift or Ctrl while clicking. (Shift toggles what's selected - if something is already selected, Shift and **Select** will unselect it. Ctrl will only add to what's selected.)

When you want to select multiple objects, it's sometimes easiest to use a selection window. This means holding the mouse and dragging a rectangle around what you want to select. The way you drag the window makes a difference: if the window goes from left to right, you'll select only what's completely inside. If the window goes from right to left, you'll select everything completely inside AND everything that touches the window.

If you double-click on a face, you'll select both the face and its edges. This comes in handy!

Line

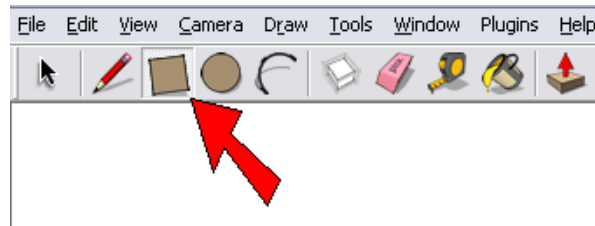
Menu: **Draw / Line**, shortcut: L



This tool draws (surprise!) lines. Click the first endpoint, then click the second endpoint. If you're finished making lines but the tool has started a new line, press the Esc (Escape) key. (You can also activate a new tool if you ever want to cancel the current tool.) If you draw lines that form a closed shape, like a triangle or rectangle, SketchUp will automatically create a face inside the lines.

Rectangle

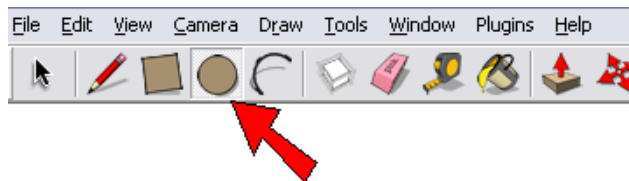
Menu: **Draw / Rectangle**, shortcut: R



To draw a rectangle, click one corner, and then the opposite corner. If you want to draw a square, wait to see the “Square” popup before clicking that second corner point.

Circle

Menu: **Draw / Circle**, shortcut: C



To draw a circle, first click the center point, then click an outside point.

A circle is actually a set of short line segments; the default number of sides is 24 which is fine for almost all designs. If you need a more “perfect” circle, you can use a higher number of sides. To set the number of sides, activate **Circle** and then immediately type the number of sides you want, and press Enter. To change the number of sides of a circle you just made, type “100s” to change the number to 100 sides (for example). Warning: a high number of sides can slow down your model!

Arc

Menu: **Draw / Arc**, shortcut: A



An arc is a partial circle. To draw an arc, click the start point, then the end point, then a point in the middle (the “bulge” point). Like with circles, an arc is actually made of short line segments, and you can change the number of sides like you would for a circle.

Polygon

Menu: **Draw / Polygon** (the icon is only in the **Large Tool Set** toolbar)

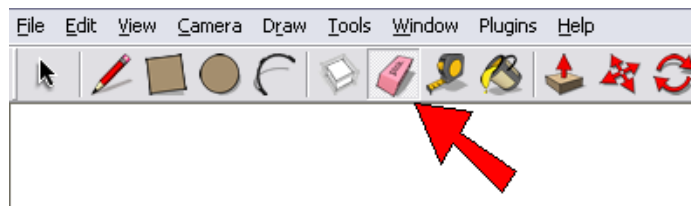


When you first activate **Polygon**, before clicking any points, you'll see the number of sides listed in the **Sides** box, located by default below the SketchUp window. If you want a different number of sides, type the number and press Enter. (For example, if you enter "3," you'll create a triangle, if you enter "6," you'll create a hexagon.)

Then create the polygon like a circle - first the center point, then an outside point. After a polygon is created, you can still change its number of sides. Enter "8s" to change the polygon to an octagon, for example.

Eraser

Menu: **Tools / Eraser**, shortcut: E



This tool erases edges (lines). If you erase an edge of a face, the face will also disappear. (Re-drawing that line will replace the face.) To erase more than one edge, you can click on each edge separately, or you can keep the left mouse button pressed while you drag the mouse over the edges you want to erase.

This tool doesn't work on faces! To erase a face, you can right-click on it (click the face using your right mouse button) and choose **Erase**. Or you can **Select** a face and press the Delete key.

Move

Menu: **Tools / Move**, shortcut: M



This tool is used for both moving and copying. First, **Select** what you want to move. Then click a start point and end point for the move. The **Length** box below the SketchUp window will show you the move distance - you can change this by entering a new number.

If you want to make a copy, press the Ctrl key while moving. (Just press Ctrl once, you don't have to hold it down.) After the copy is created, you can enter "2x" to make two copies, "8x" to make eight copies, etc. You can also enter a distance from the first to last copy, like "120." If you want to create four copies spaced evenly within this distance, enter "4/" (don't forget the slash symbol).

Rotate

Menu: **Tools / Rotate**

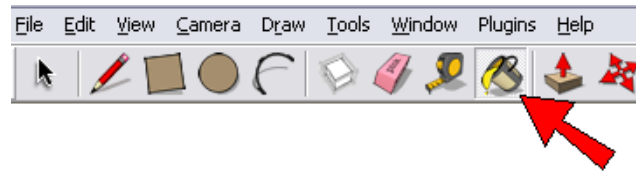


This tool is used for both rotating and copying. First, **Select** what you want to rotate. Then the protractor appears - place this at the center of rotation. Then click a start point and end point for the rotation. The angle is shown in the **Angle** box below the SketchUp window; you can change this by entering a new number.

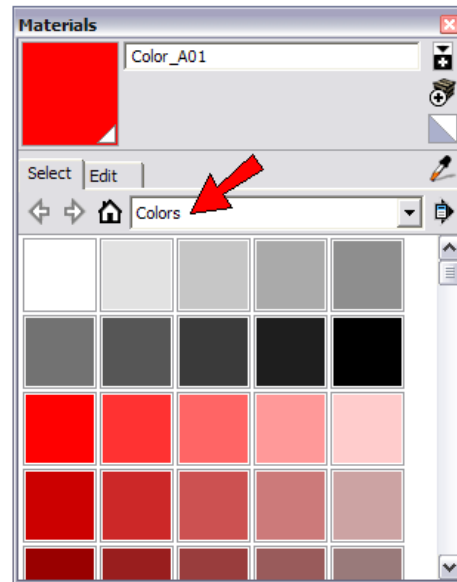
If you want to make a copy, press the Ctrl key while rotating. After the copy is created, you can enter "2x" to make two copies, etc. You can also enter an angle from the first to last copy, like "360." If you want to create 12 copies spaced evenly within this distance, enter "12/" (again, don't forget the slash symbol).

Paint Bucket

Menu: **Tools / Paint Bucket**



This is the tool you use to paint faces. When you click it, the **Materials** window opens. There are several folders (such as “Colors” shown below). You can switch folders to see different sets of colors, transparent colors, patterns, or materials.

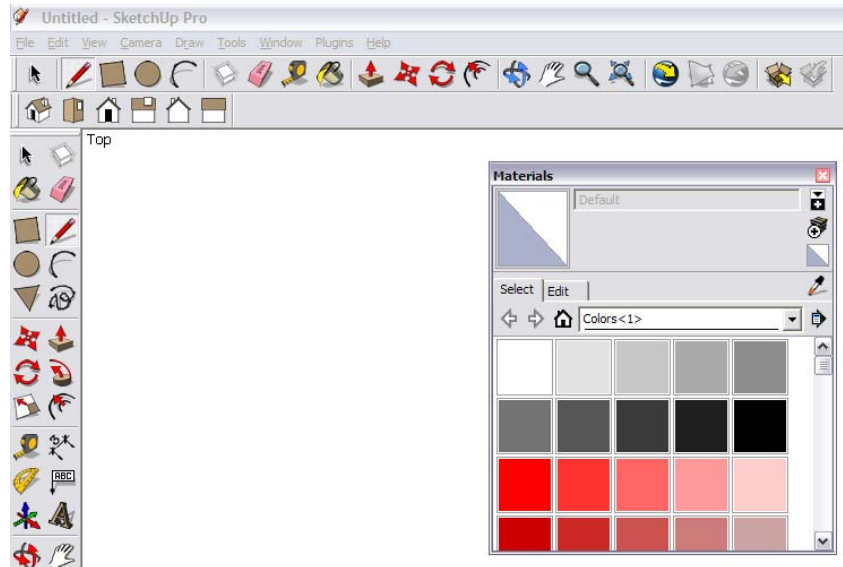


To paint a face, click the color square you want to use, then click the face. If you want to paint more than one face at once, first **Select** the faces you want to paint. Then click the color, and click any of the selected faces. They will all be painted.

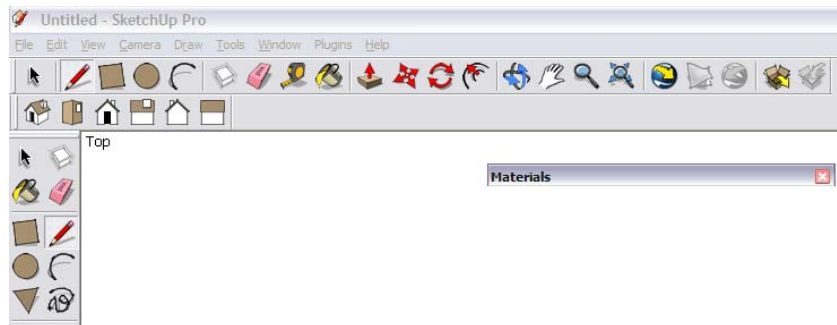
As you can see from the toolbars, SketchUp has MANY more tools, but these are the basic ones you’ll use most often. You can always check SketchUp’s online help (menu: **Help / SketchUp Help**) for a quick description of a tool or feature. And of course, all of the advanced tools are described in the **ModelMetrics** and **GeomeTricks** books!

SketchUp Windows

A lot of the work you do in SketchUp is done in separate windows, like the **Materials** window described above (and shown below). If you have several windows open, they can take up a lot of space on your screen.



If you want to save space, you can close a window without actually making it disappear. Just click on the title bar, which is the long bar across the top of the window. For example, if you click on the bar that says **Materials**, the rest of the window will disappear and only the title bar will be visible.



If you want to open the window again, just click the title bar again. And if you want the window to disappear altogether, just click the red "X" at the right side of the title bar.

You could have a bunch of windows with only their title bars showing, and if you drag the title bars together, they will stick to each other.



If you want to open one of the windows in your stack, just click its title bar. The rest of the windows stay closed, unless you open them, too.