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Introduction to Google SketchUp
(Mac 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 Google SketchUp

1. Google SketchUp is free and easy to install. Go to the website **www.sketchup.com**. This is what will appear in your browser:
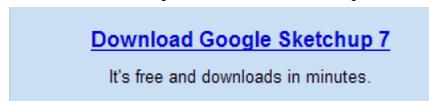

    (This website is updated often, so what you see on your screen might not match what's shown here.)
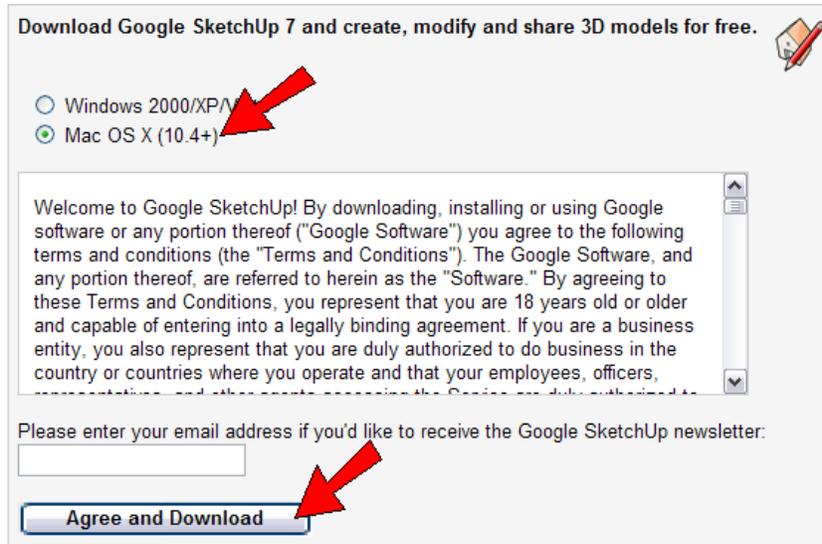
2. On the web page, find and click the button that says **Download Google SketchUp (Free)**.
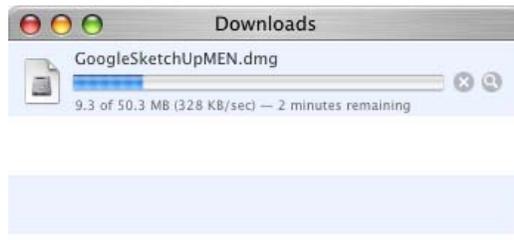

3. Then click the link for the free version (unless you want to buy the Pro version).

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

You will see the installation file downloading.

5. If you see this question, click **Continue**. (Yours may say **Download** instead.)

6. You should then see a window like this, which is the first of a few steps you need to finish installing SketchUp. Follow the directions for each window, which usually just means clicking **Continue**.
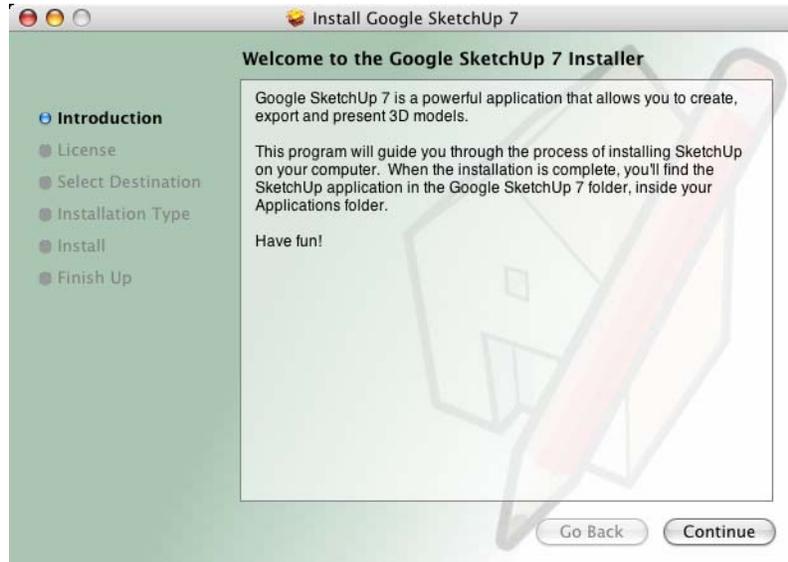
*If you don't see the **Install Google SketchUp** window, then your installation didn't start automatically. No problem, just double-click (click twice quickly) on this icon on your desktop, which says "GoogleSketchUpMEN.dmg."*

*This opens the **Google SketchUp** window. Double-click on this icon inside, which looks like a package:*
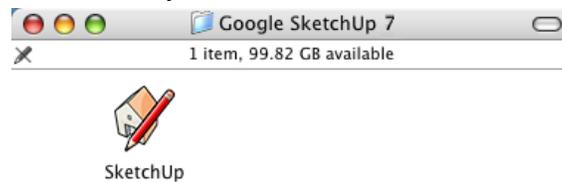

*Then you'll see the first **Install Google SketchUp** window, and you can just follow the directions on each window until the installation is finished.*

When the installation is finished, you will have a "Google SketchUp" folder in your **Applications** folder.

7. Open the "Google SketchUp" folder, and you'll see this icon. This is what opens the SketchUp program.

8. You can leave the icon here, or make a copy of it on your desktop. (It's easy to make a copy - just click the icon in the folder and drag it outside the folder, into some blank space on the desktop.

To start SketchUp, all you have to do is double-click this icon.

The Mouse

There are different kinds of mice that can be used with your Mac, which will work with SketchUp.

- The "Mighty Mouse" is the one that probably came with your Mac, if your computer is less than a few years old.

- You can also use any type of three-button mouse with a scroll wheel.

- You might have an old-fashioned Mac mouse, with one button and no scroll wheel.

- If you're using a MacBook, you might not have a mouse at all.

Read on, to figure out what kind of mouse you have. You'll need to know this when you start using SketchUp.

Mighty Mouse

For the last few years, the mouse that comes with a Mac is called the "Mighty Mouse," which looks like this:


The Mighty Mouse has "squeeze" buttons on the sides, and a little scroll ball on the top.

This is a good mouse to use with SketchUp, because it can act like a mouse that has four separate buttons. But you will probably have to set it up to get the buttons to do what you want.

1. You can change how your mouse works in the **System Preferences** of your computer. To do this, first click the apple icon that's always in the top left corner of your screen.
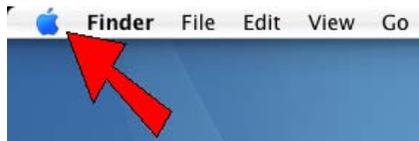

2. From the menu that opens, choose **System Preferences**.
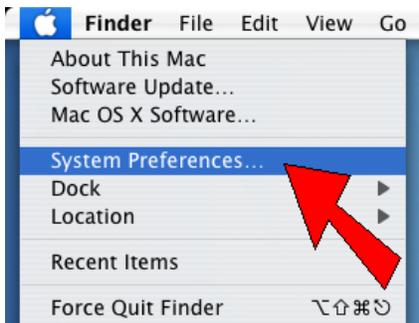
3. In the **System Preferences** window, click the icon for **Keyboard & Mouse**.

4. This is what you will probably see in the **Keyboard & Mouse** window. Both sides of the mouse are set to "Primary Button," which means that no matter where you click the mouse button (left or right side), it will always do the same thing. This means that your mouse will act like an old-fashioned, one-button mouse, which isn't great for SketchUp. To make your mouse ready for SketchUp, click this arrow to set the right side of the mouse:
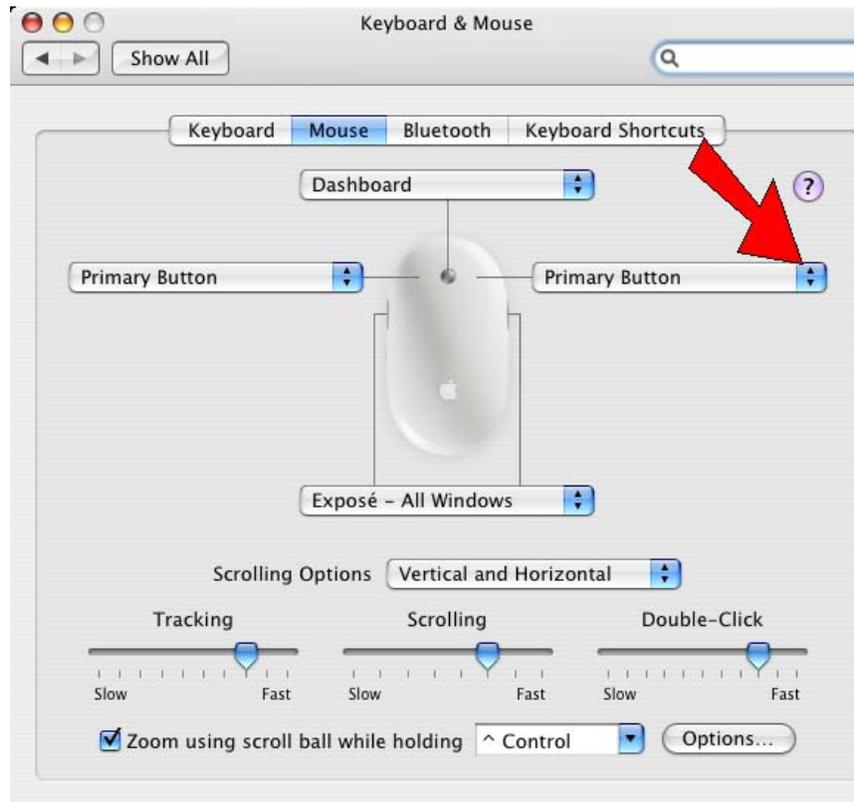
5. Choose "Secondary Button."
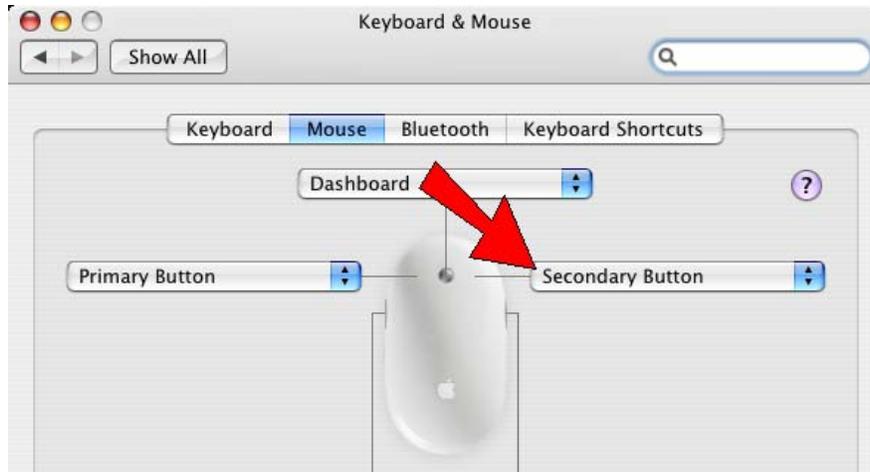
6. For the button at the top, set it to "Button 3."
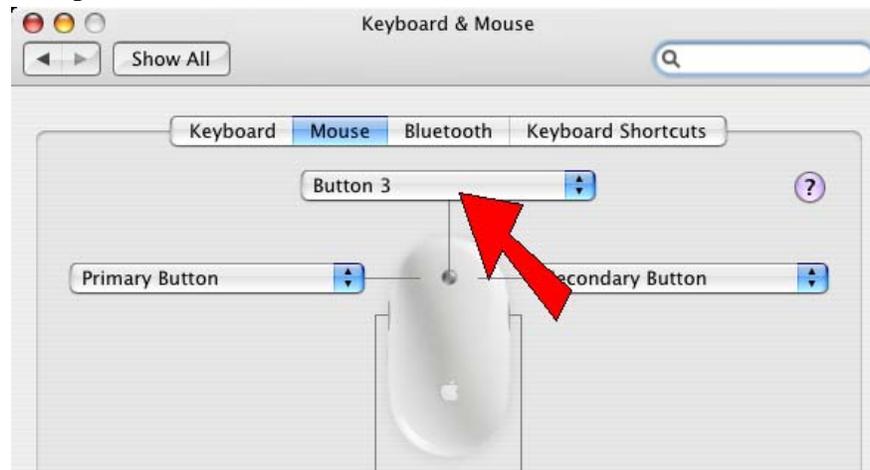
It doesn't matter how you set the buttons on the sides of the mouse.

7. Then you can close the **Keyboard and Mouse** window.

Now when you click on the right side of your Mighty Mouse, it's the same as right-clicking with a two-button or three-button mouse. (Right-clicking is done all the time in SketchUp.)

Scrolling the little scroll ball up and down will zoom your model in and out (make it appear larger or smaller).

And clicking on the scroll ball, and keeping it pressed, will orbit your model (make it spin around.)

Three-Button Scroll Wheel Mouse

This type of mouse is also great for working in SketchUp. It has three buttons, and the middle button is also a scroll wheel. Here are some examples:

Like with a Mighty Mouse, the scroll wheel can be used to zoom your model (make it appear larger or smaller). And you can click the scroll wheel like a button, making it easy to orbit.

These mice are usually set up automatically, so when you plug one into your Mac, you shouldn't have any set-up to do. But if you find that the buttons aren't doing what you want, open the **Keyboard & Mouse** window and see if you can fix the buttons. (If you can't find this window, read "Mighty Mouse" on page 5.)

One-Button Mac Mouse

If your computer is a few years old, you might have a mouse like one of these:

This kind of mouse has just one button, and no scroll wheel. You can still use it with SketchUp, but having no scroll wheel means you can't use your mouse to zoom. You'll need to use keyboard keys for panning and orbiting, and because you can't right-click, you'll need to use keyboard keys for right-click tasks, too.

If you have a mouse like this, you'll have a much better time with SketchUp if you "upgrade" to a Mighty Mouse or a three-button wheel mouse. You can get three-button mice pretty cheap nowadays (as low as $20), and my Mighty Mouse cost $49.

MacBook Mouse

If you're using a Mac laptop, or "notebook," you might not have a separate mouse at all, just a track pad and buttons like this:

It's really tough to use SketchUp like this, with no "real" mouse. But it's easy to get a Mighty Mouse, or a three-button scroll mouse, and you can just plug it right in to your MacBook.

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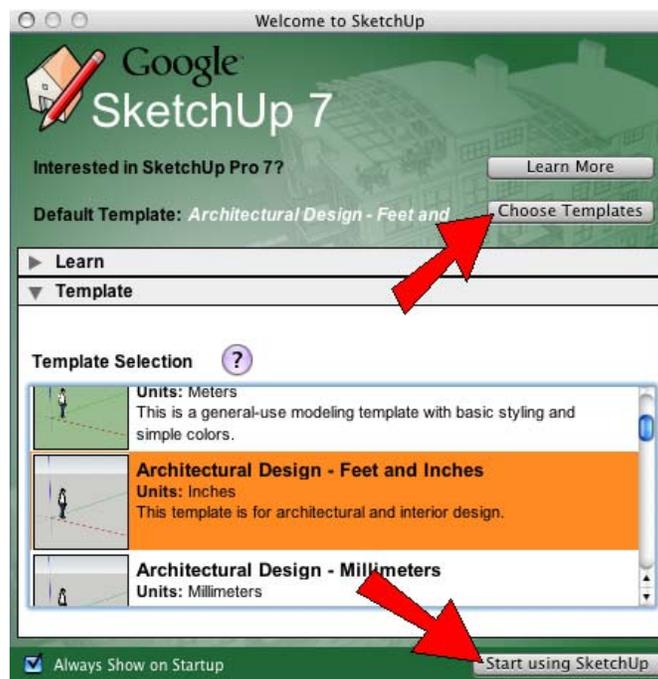
If you want your model to open in **Top** view, scroll down the template list and choose one of the "plan view" templates.

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

By default, one long toolbar appears across the top of your SketchUp window. This is the **Getting Started** toolbar.

The other standard toolbar you can display is called **Large Tool Set**. To display this, choose **View / Tool Palettes / Large Tool Set**.
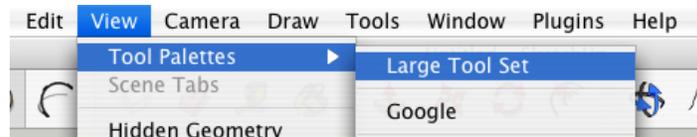
The **Large Tool Set** looks like this (shown partially here). It contains all of the drawing, editing, and camera tools.
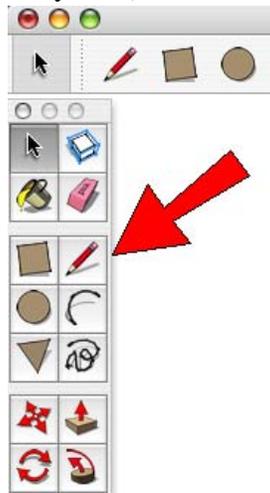
If you want to change what's in the main toolbar (the one across the top of the window), choose **View / Customize Toolbar**. The window shown below will appear. Drag any icon or group of icons from this window up into the toolbar. Or you can move icons you don't want from the toolbar down into this window. To get back to the default toolbar, drag the default set (the long toolbar at the bottom of this window) into the toolbar, and it will replace what's already there. Click **Done** when you're done.


I find it's useful to move the **Standard View** and **Face Style** icons into the toolbar. Most of the other tools you need are already in the **Large Tool Set**.

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

To see a list of shortcuts, choose **SketchUp / Preferences** and open the **Shortcuts** page. Under **Function**, scroll down to see the list of tools. In the example below, you can see that the **Line** shortcut is L, the **Arc** shortcut is A, **Rectangle** is R, etc.
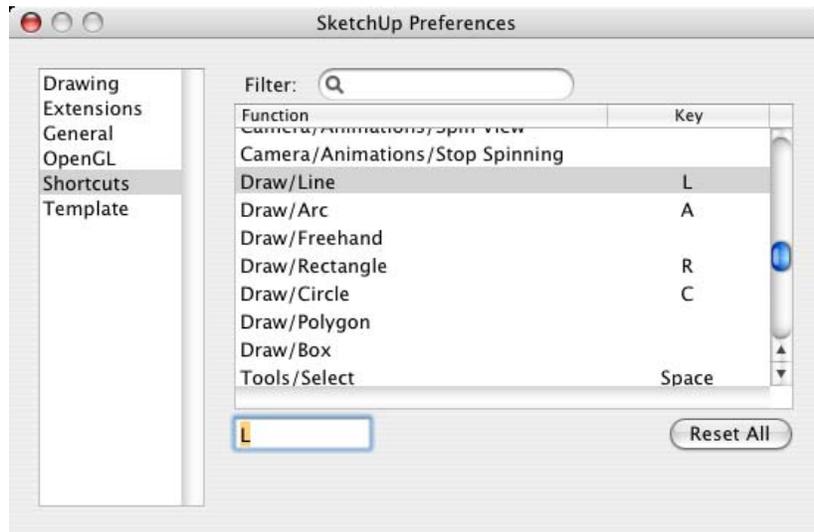
You can use this window to change a shortcut to a different key, or set a shortcut for a tool that doesn't have a shortcut. Just type the letter or combination of letters you want (such as Shift+E) in the box below the list of functions.

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.
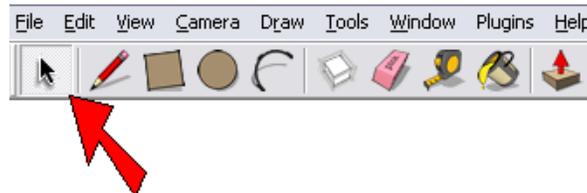

Review of Basic Tools

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 Option while clicking. (Shift toggles what's selected - if something is already selected, Shift and **Select** will unselect it. Option 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
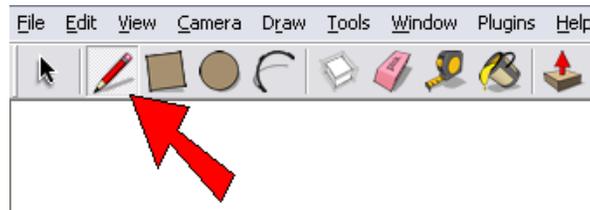
This tool draws (surprise!) lines. Click the first endpoint, then click the second endpoint. If you're finished making lines but the tool has started a new line, press the Esc (Escape) key. (You can also activate a new tool if you ever want to cancel the current tool.) If you draw lines that form a closed shape, like a triangle or rectangle, SketchUp will automatically create a face inside the lines.

Rectangle

Menu: **Draw / Rectangle**, shortcut: R
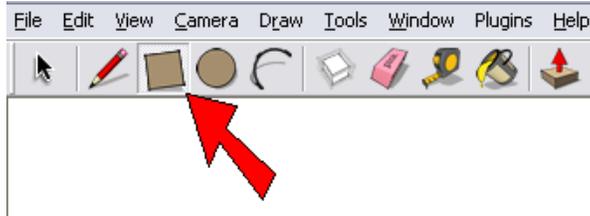
To draw a rectangle, click one corner, and then the opposite corner. If you want to draw a square, wait to see the "Square" popup before clicking that second corner point.

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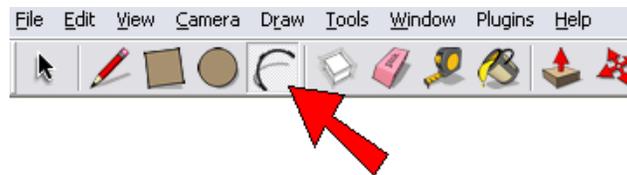
An arc is a partial circle. To draw an arc, click the start point, then the end point, then a point in the middle (the "bulge" point. Like with circles, an arc is actually made of short line segments, and you can change the number of sides like you would for a circle.

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
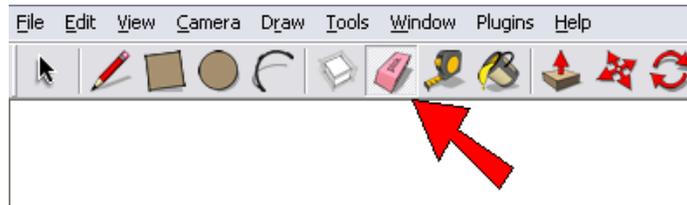
This tool erases edges (lines). If you erase an edge of a face, the face will also disappear. (Re-drawing that line will replace the face.) To erase more than one edge, you can click on each edge separately, or you can keep the left mouse button pressed while you drag the mouse over the edges you want 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 Option key while moving. (Just press Option once, you don't have to hold it down.) After the copy is created, you can enter "2x" to make two 2 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 will be listed 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 Option 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 **Colors** window opens. There are several folders (such as "Crayons" shown below). You can switch folders to see different sets of colors, transparent colors, patterns, or materials.
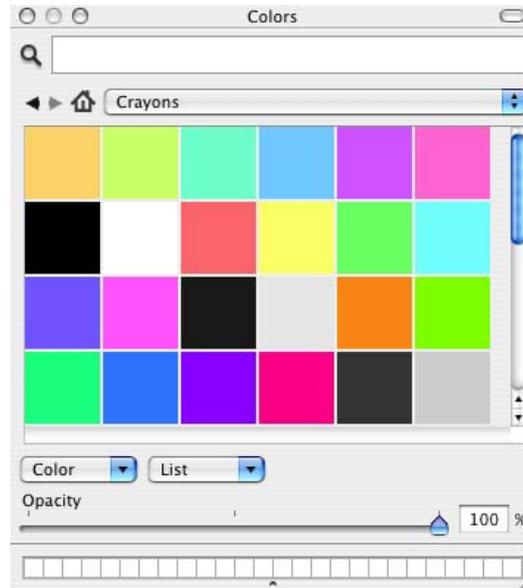

To paint a face, click the color square you want to use, then click the face. If you want to paint more than one face at once, first **Select** the faces you want to paint. Then click the color, and click any of the selected faces. They will all be painted.

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 **ModelMetricks** and **GeomeTricks** books!

SketchUp Windows

A lot of the work you do in SketchUp uses separate windows, like the **Layers, Components, and Styles** windows shown below. If you have several windows open, they can take up a lot of space on your screen.
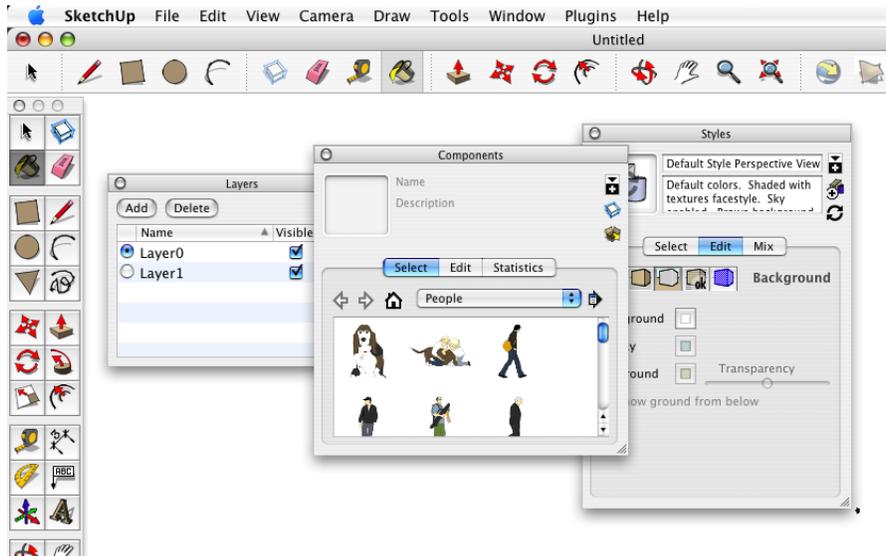
If you want to save space, you can close a window without actually making it disappear. Just click on the title bar, which is the long bar across the top of the window. For example, if you click on the bar that says **Layers**, the rest of the window will disappear and only the title bar will be visible.
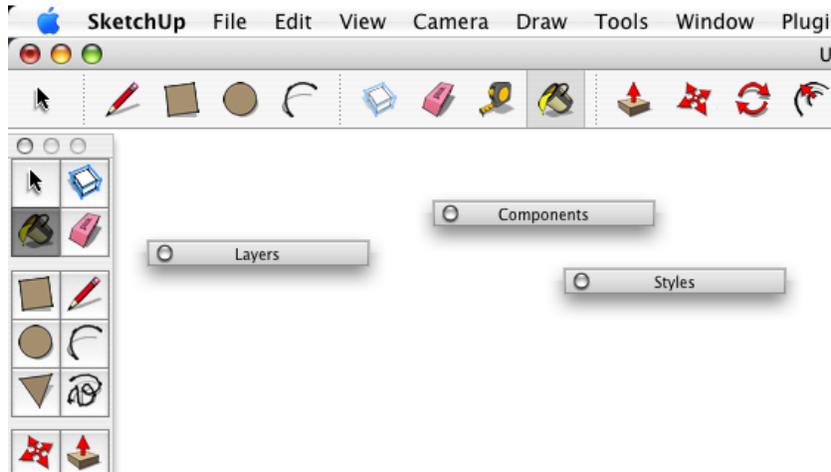
If you want to open the window again, just click the title bar again.

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. (This doesn't work with all windows. For example, it doesn't work with the **Colors** window.)

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.