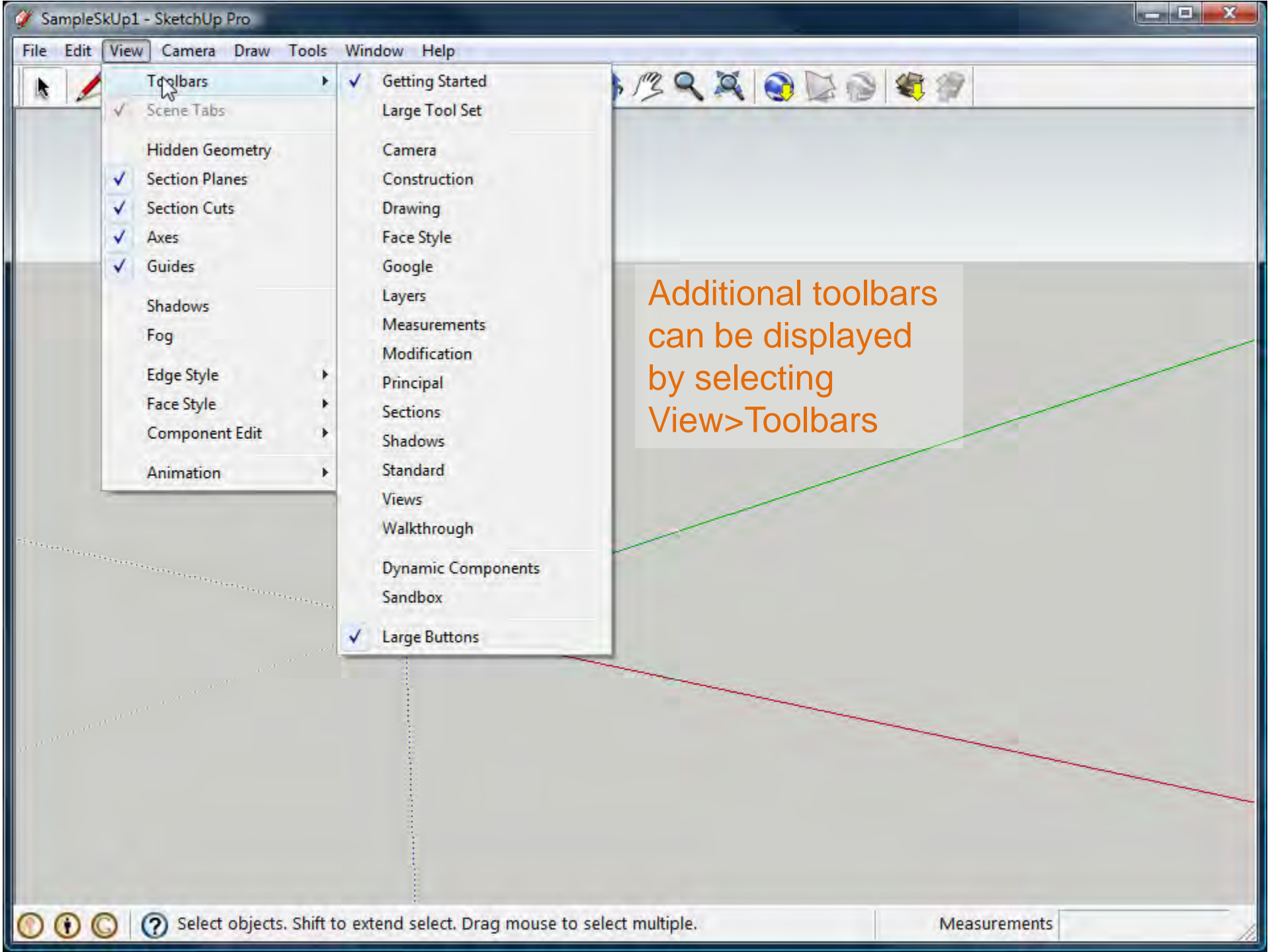


# GETTING STARTED WITH SKETCHUP

When opening a new document the image will likely look like this.

Familiarize yourself with the options available in the program.





Additional toolbars  
can be displayed  
by selecting  
View>Toolbars



The drawing area is where you will create your model. The space is defined by 3 colored axes (red, green and blue). These axes help by providing a sense of orientation within the drawing space.



The person visible in the drawing at startup helps give a sense of 3D space.





The status bar displays tips for tools currently in use as well as other functions accessible with keyboard shortcuts. Similar to AutoCAD, it's important to look to the status bar for more information about the tools.



**STATUS BAR**

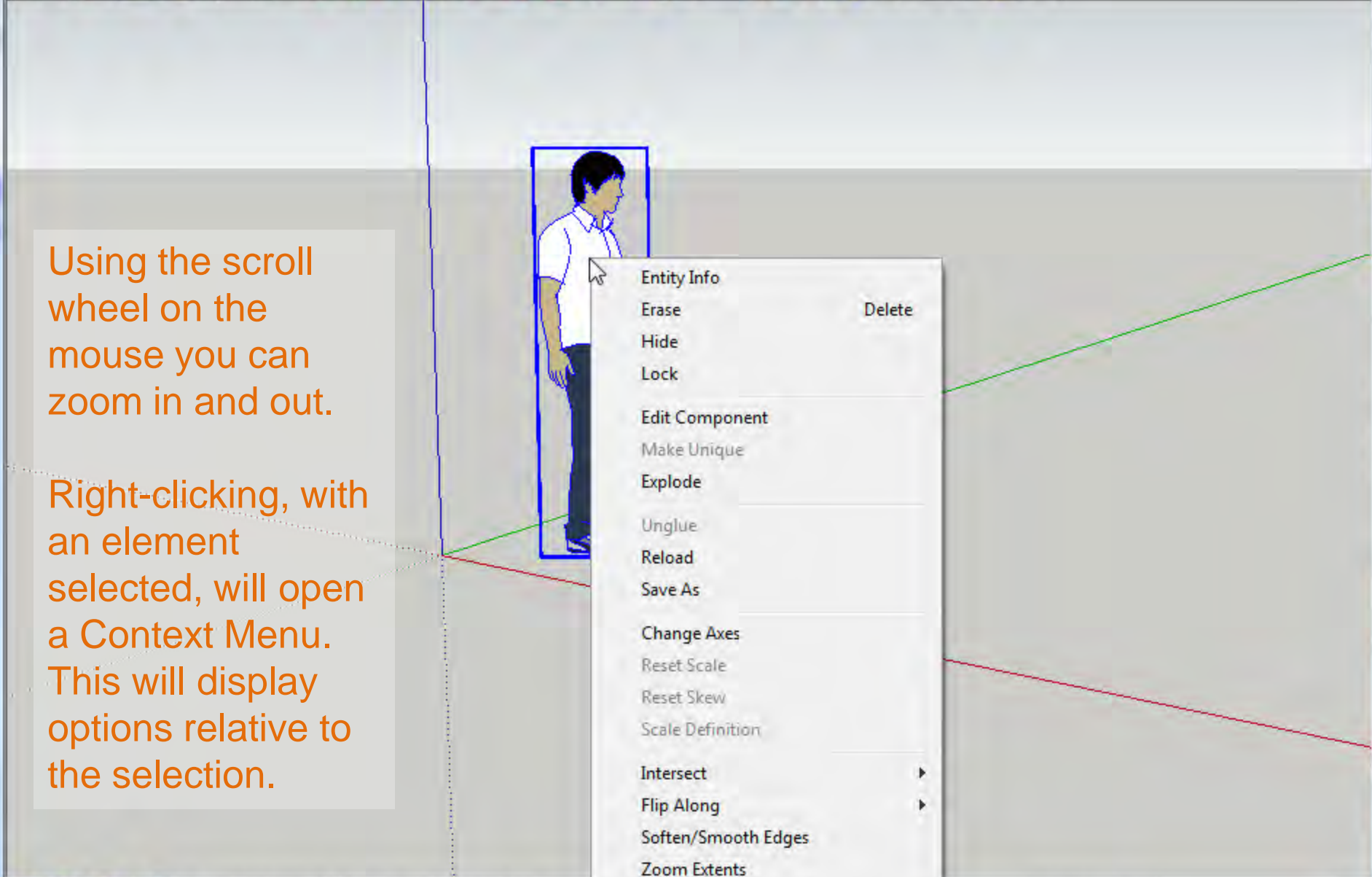


The measurements bar displays dimensional info while you draw. Values can also be entered into the toolbar to manipulate selected objects.



# MEASUREMENTS

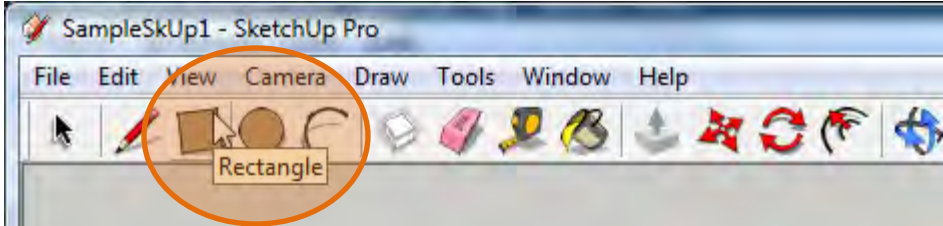




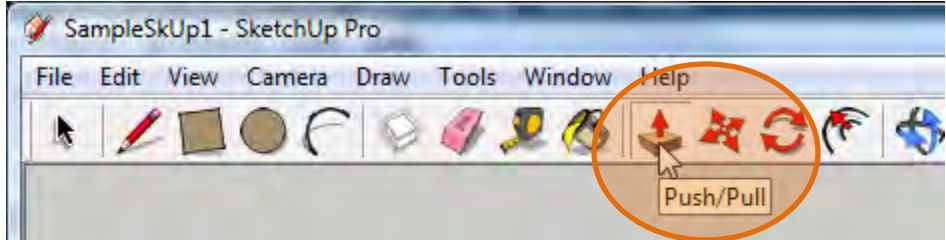
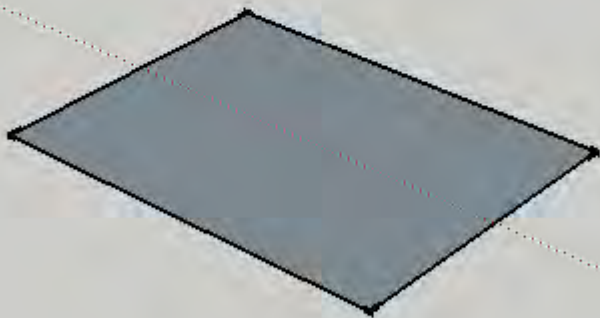
Using the scroll wheel on the mouse you can zoom in and out.

Right-clicking, with an element selected, will open a Context Menu. This will display options relative to the selection.

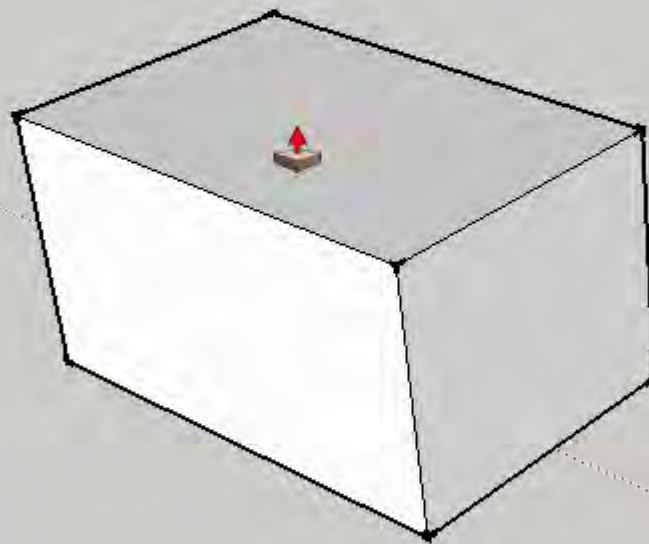




To begin creating a model, select the Rectangle tool.



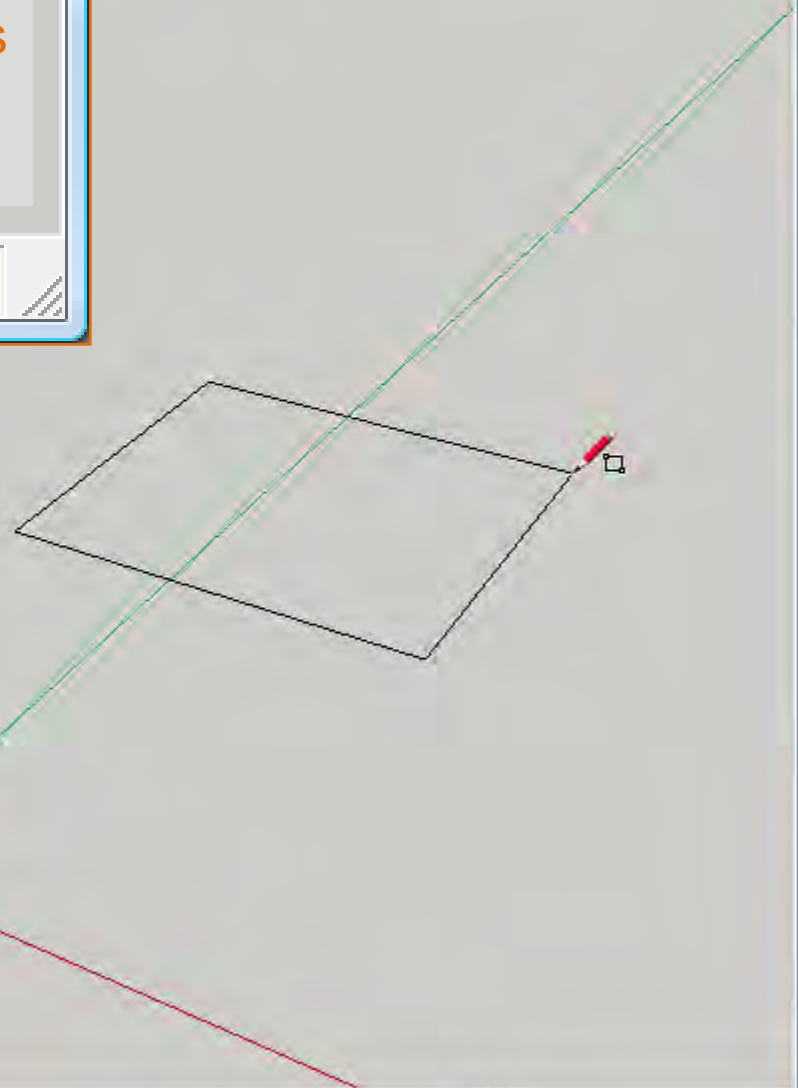
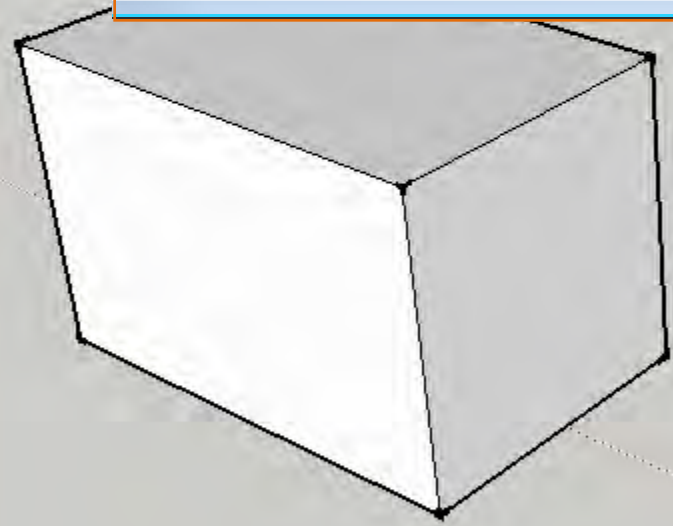
Turn this into a three dimensional object with the Push/Pull tool.



Note that after it is drawn, you can return to the shape and modify it on any axis with the Push/Pull tool.



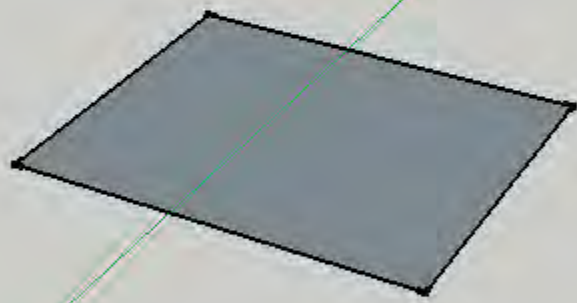
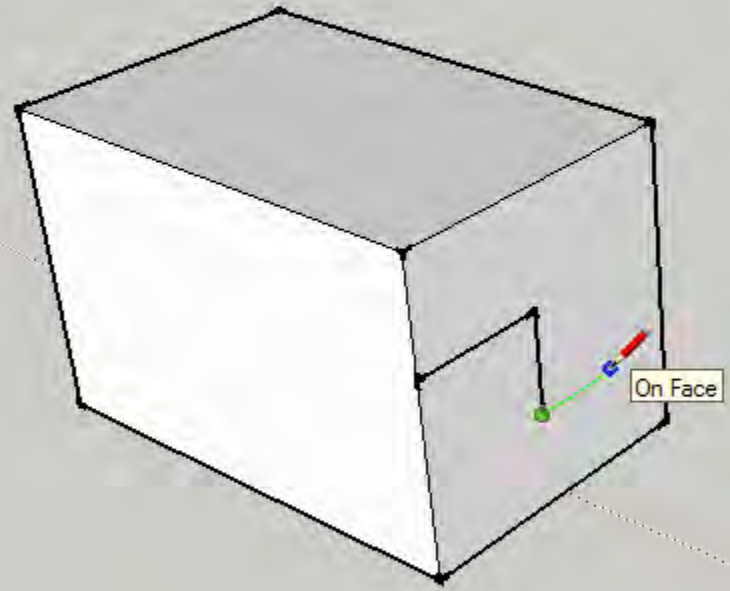
Entering dimensions in SketchUp is different than in AutoCAD. Press the Tab key to activate the Dimensions box, then Enter 4',6'.

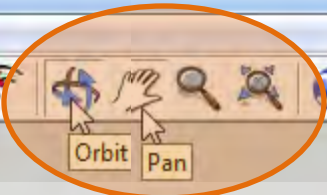






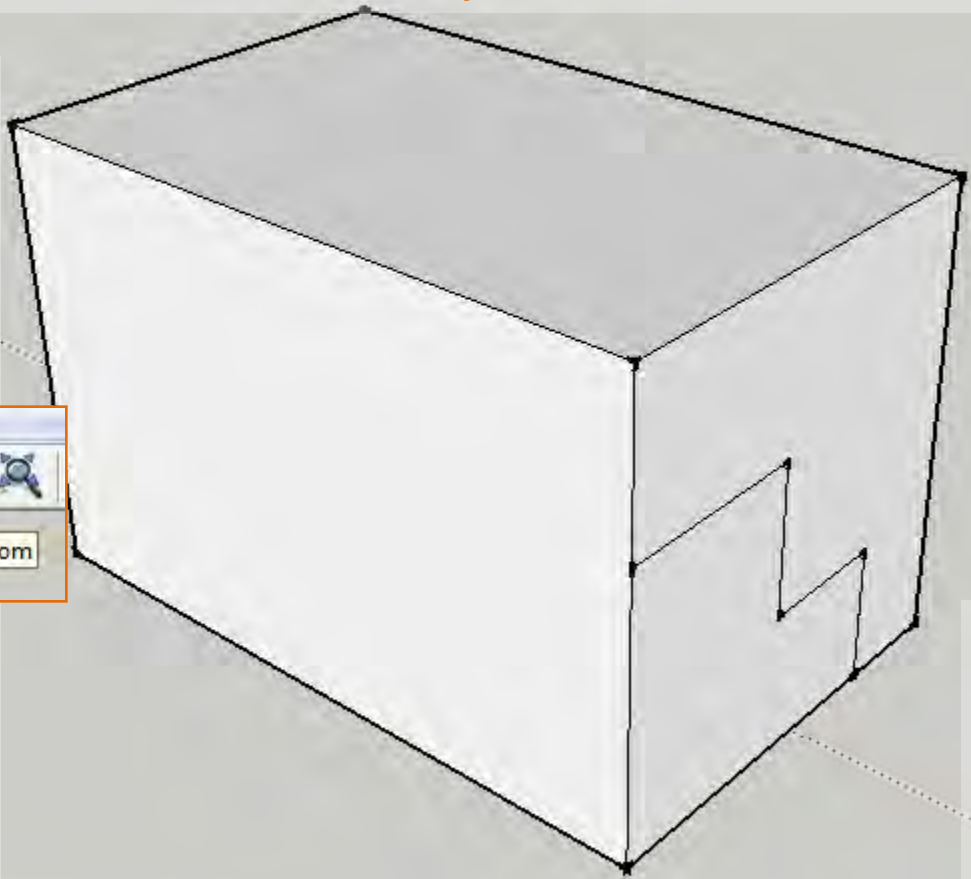
Use the visual cues to draw on the face of an object or on a specific axis.



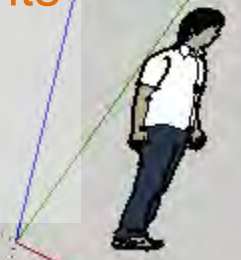


Use the Orbit and Pan tools to move around your drawing area. The scroll wheel will allow you to zoom in and out.

Use the Zoom tool: select it, then press and hold the left mouse button. Drag the mouse up and down to scroll in and out.

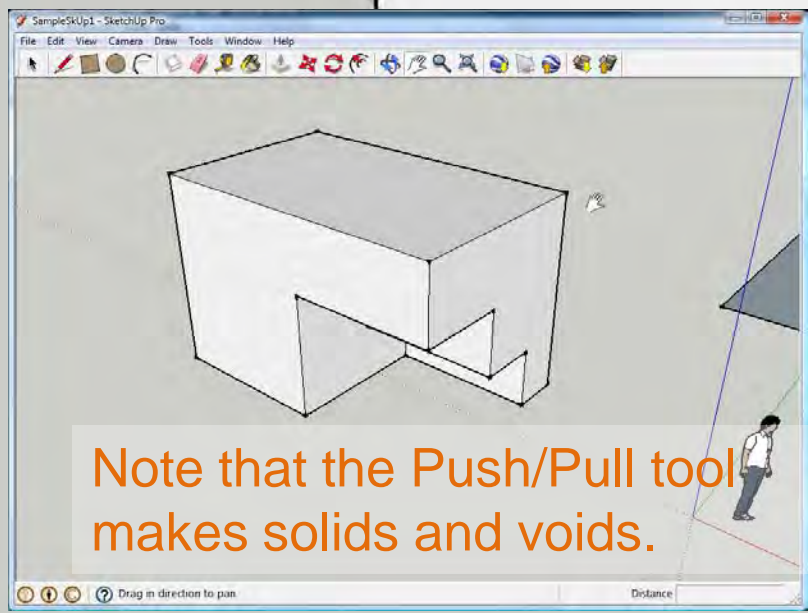
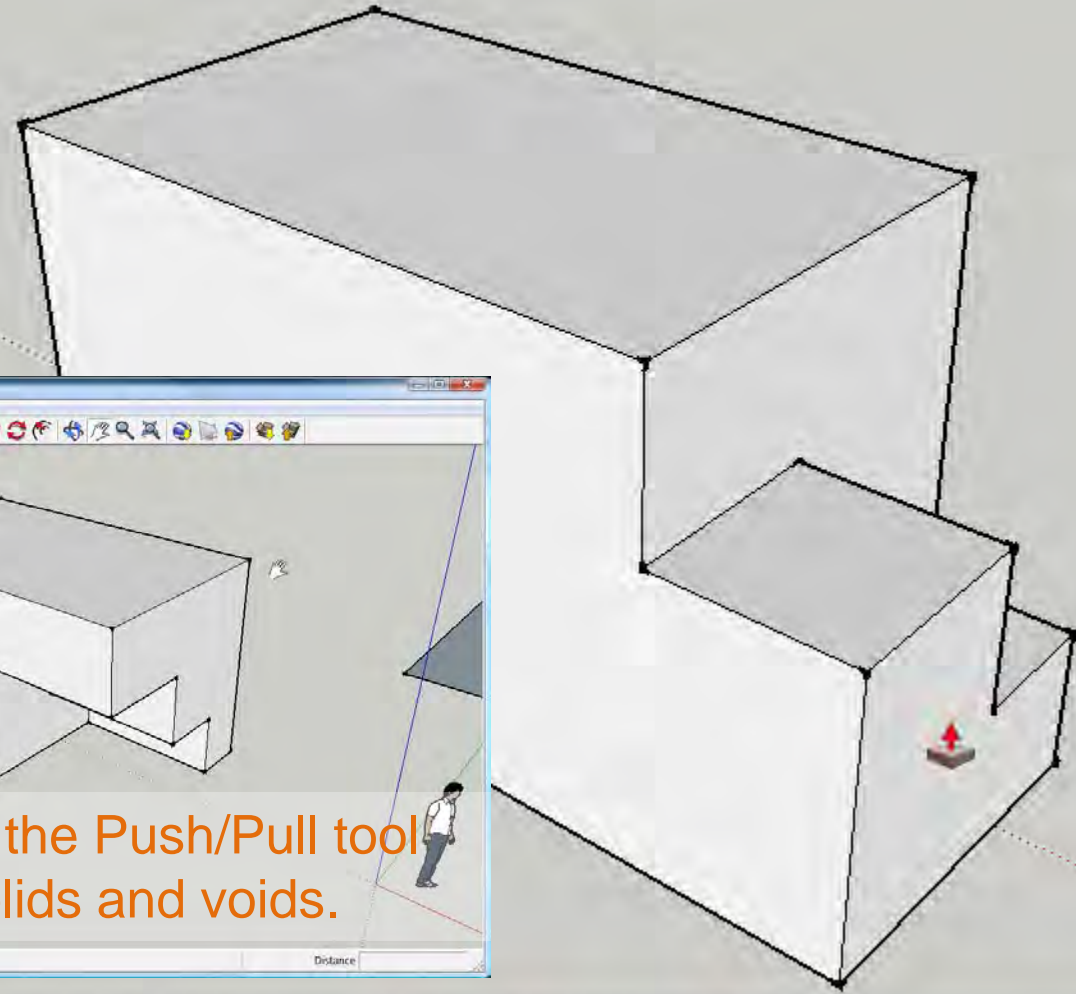


Use the Zoom Extents tool to see the entire workspace.





After drawing a form on the face of an object, use the Push-Pull tool to make it 3D.



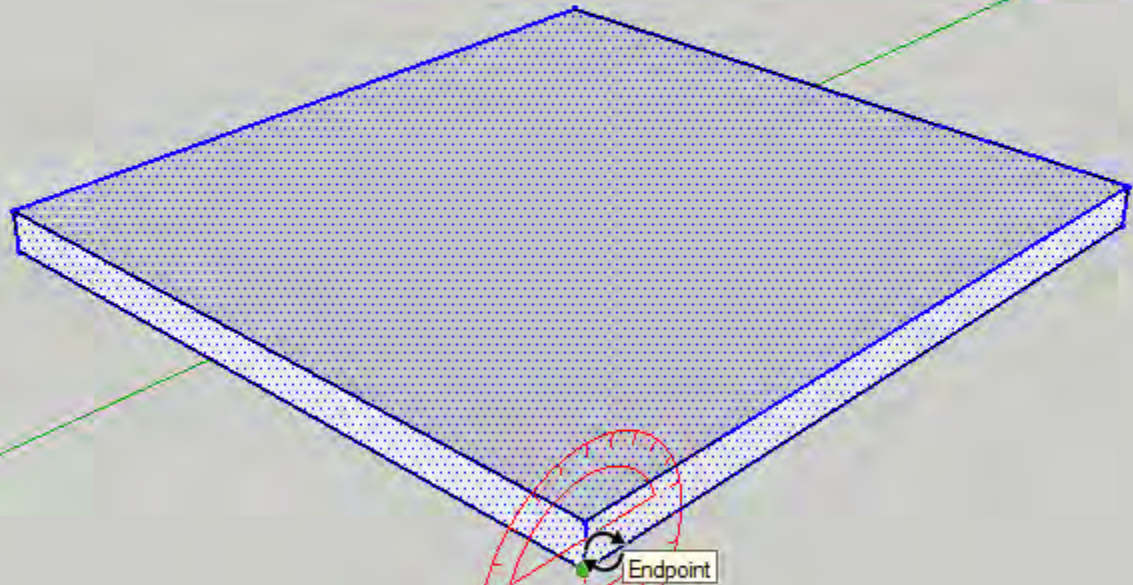
Note that the Push/Pull tool makes solids and voids.





Rotate

Use the Rotate tool to manipulate an object.  
Look for cues that pertain to the axes to allow for proper rotation.  
Hover your mouse over the point about which the object will rotate.



Endpoint

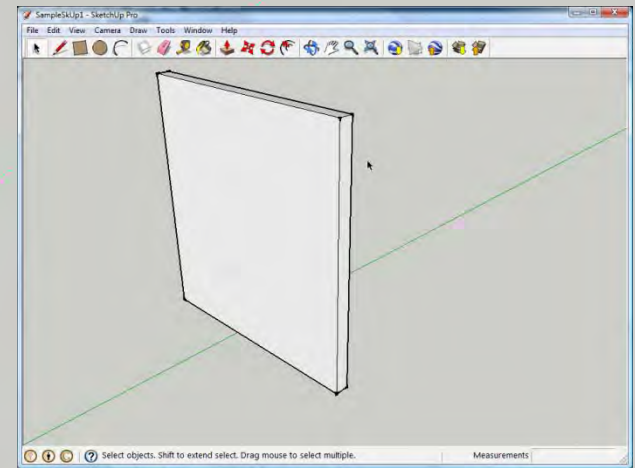
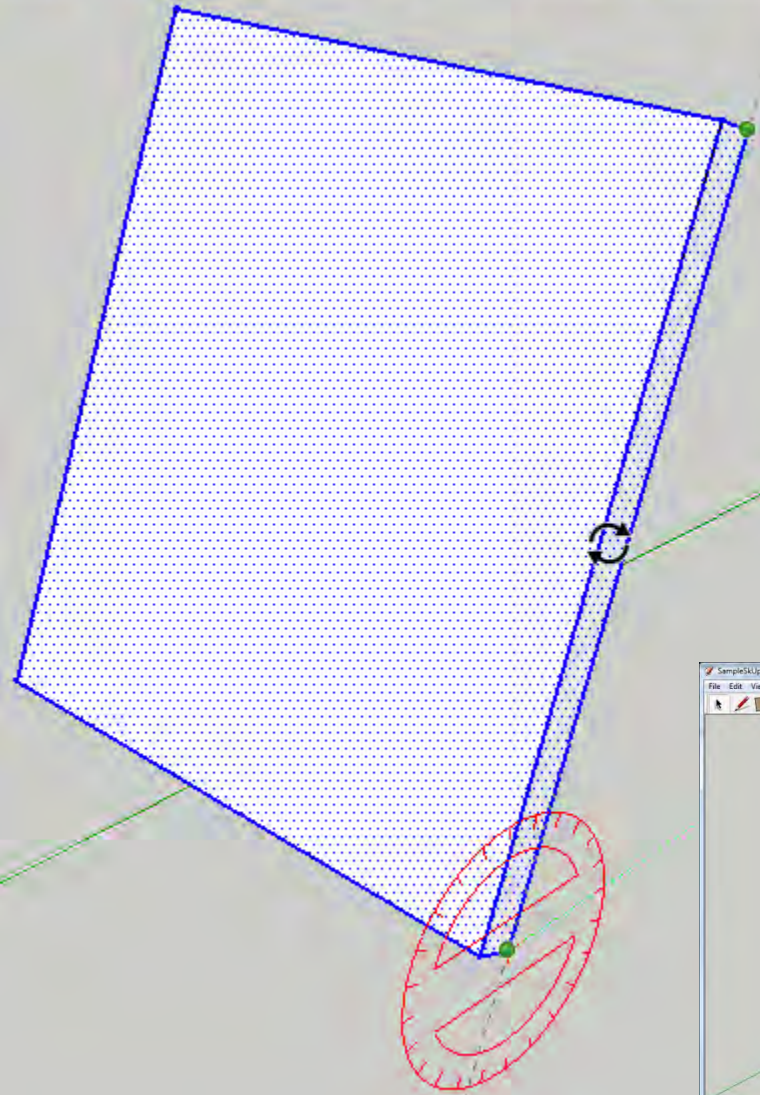
By shifting the mouse slightly you can adjust the orientation of the protractor.



Click once to set the origin and again to set the rotation plane. As the object moves, you may manually enter the angle of rotation.

Press Return to execute.

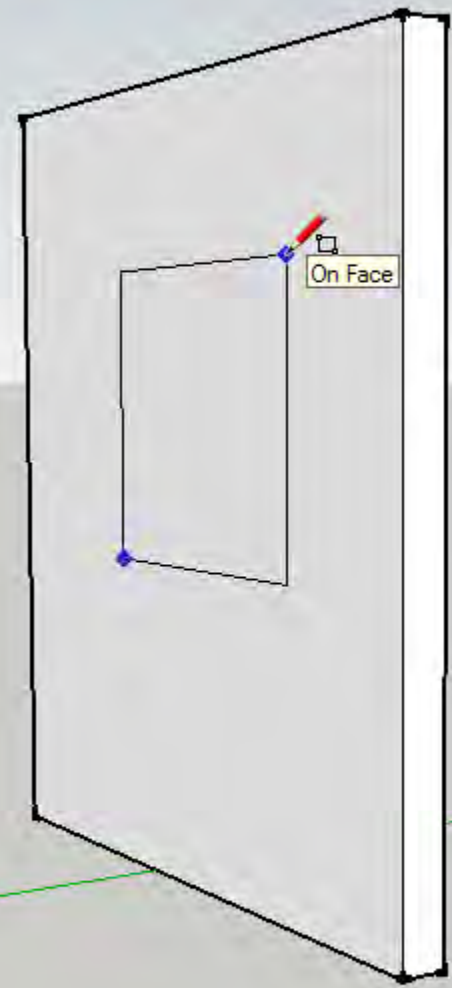
Watch for notes in the Status Bar that will aid in completing the command.



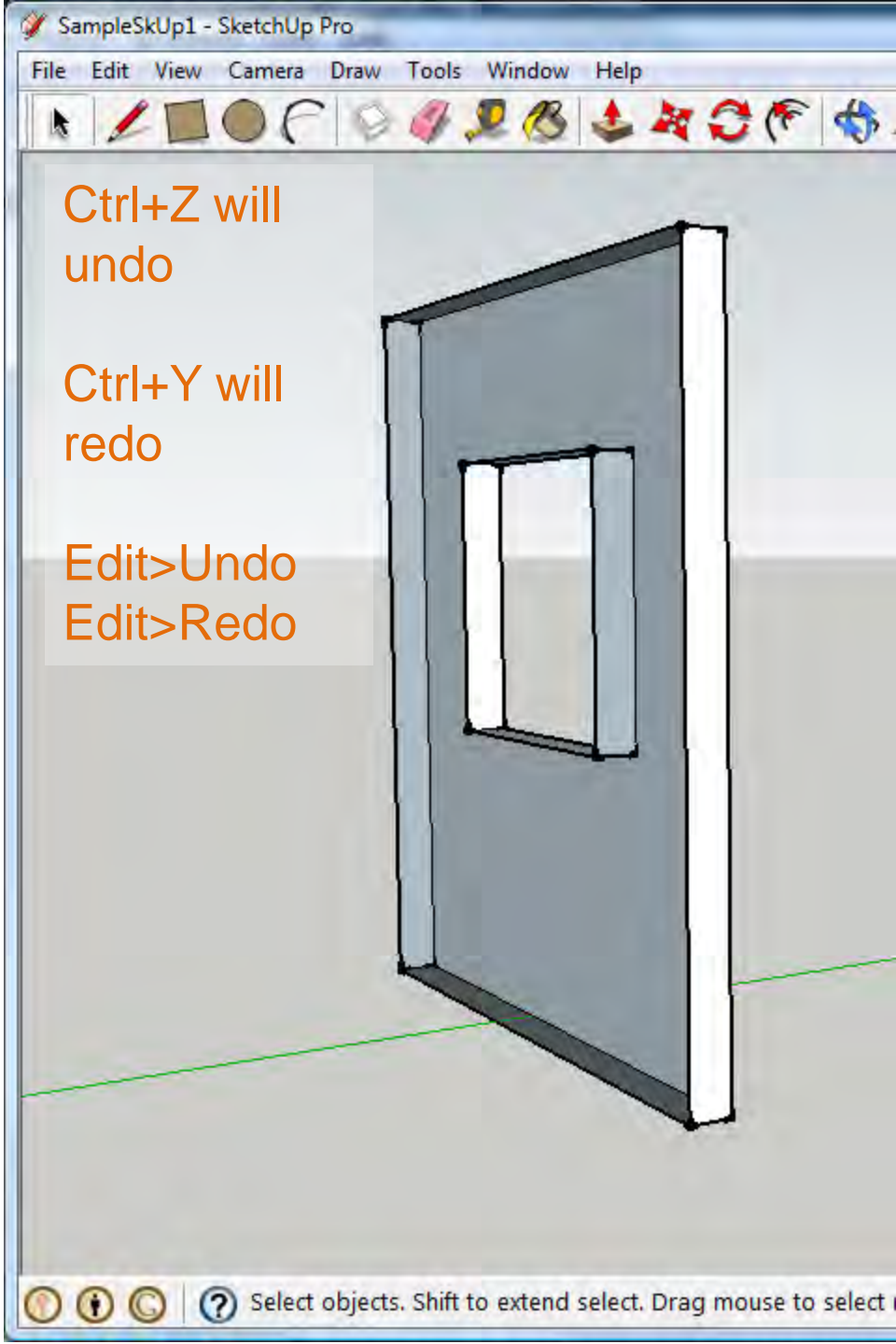
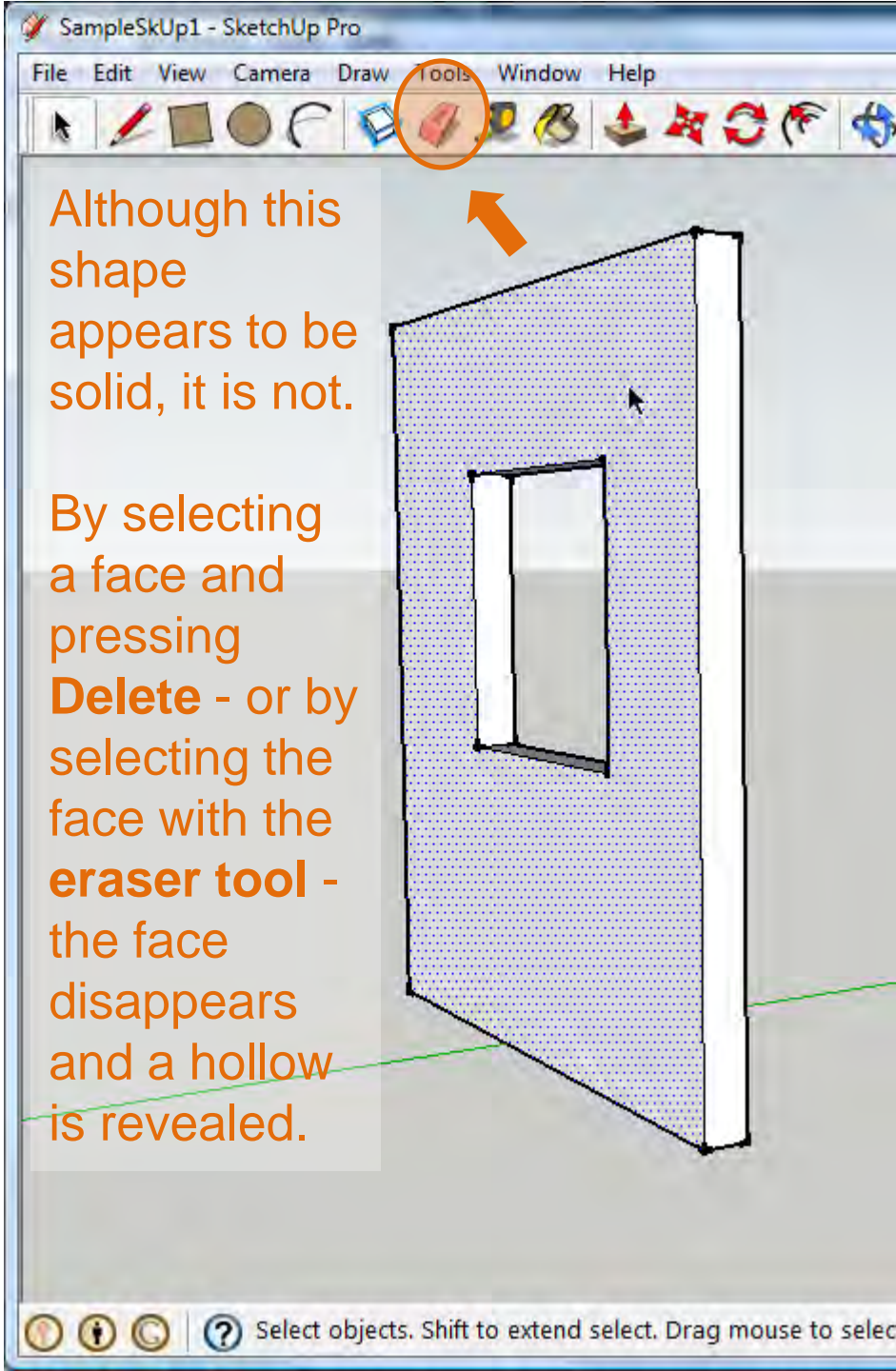


Use visual cues to draw a shape on the face of the object.

Use the Push/Pull tool to use the shape to delete an area of the original object.



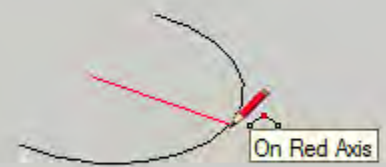
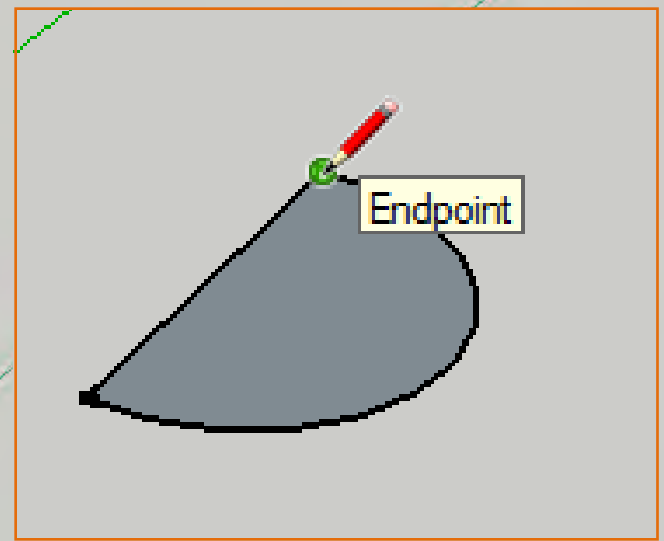
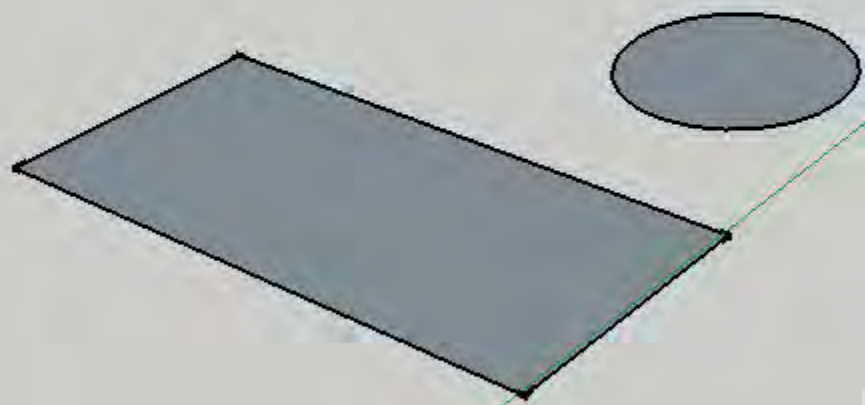






Draw additional shapes using the rectangle, circle and arc tools.

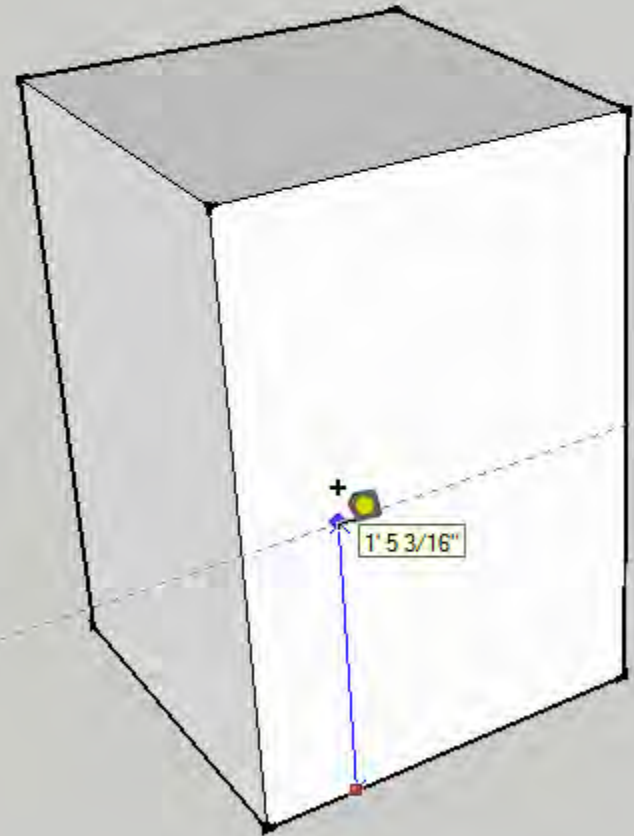
Pay attention as you draw to ensure you are drawing on the appropriate axis.



Complete the Arc by drawing a Line between the end points. Now any of these shapes can be turned 3D with the Push/Pull tool.



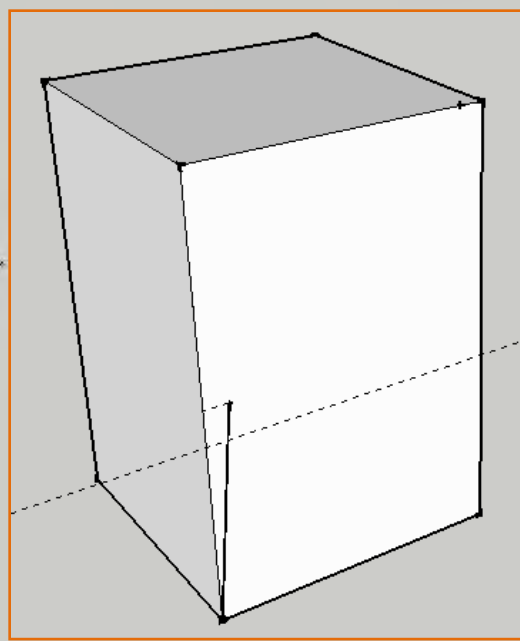
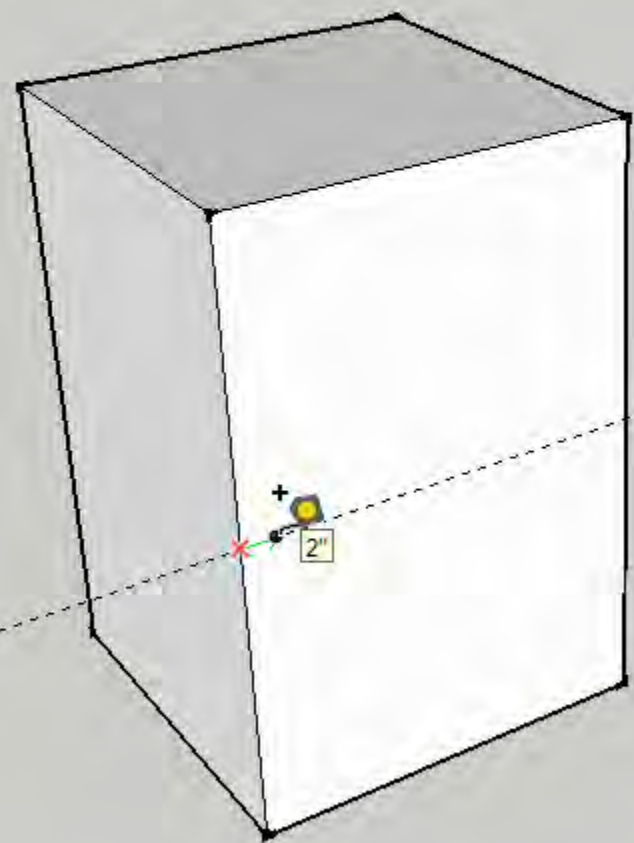
Draw a 24"x24"x36" rectangular solid. Use the tape measure tool to create a guide 18" from the bottom of the box. If a guideline does not appear as you draw press Ctrl and move the mouse.





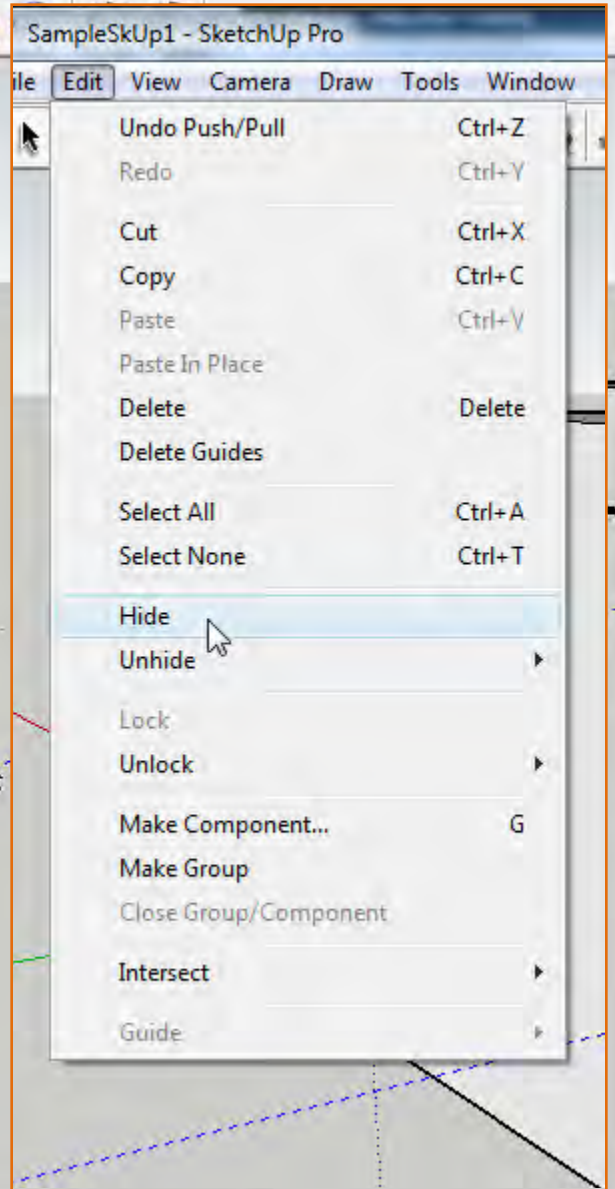
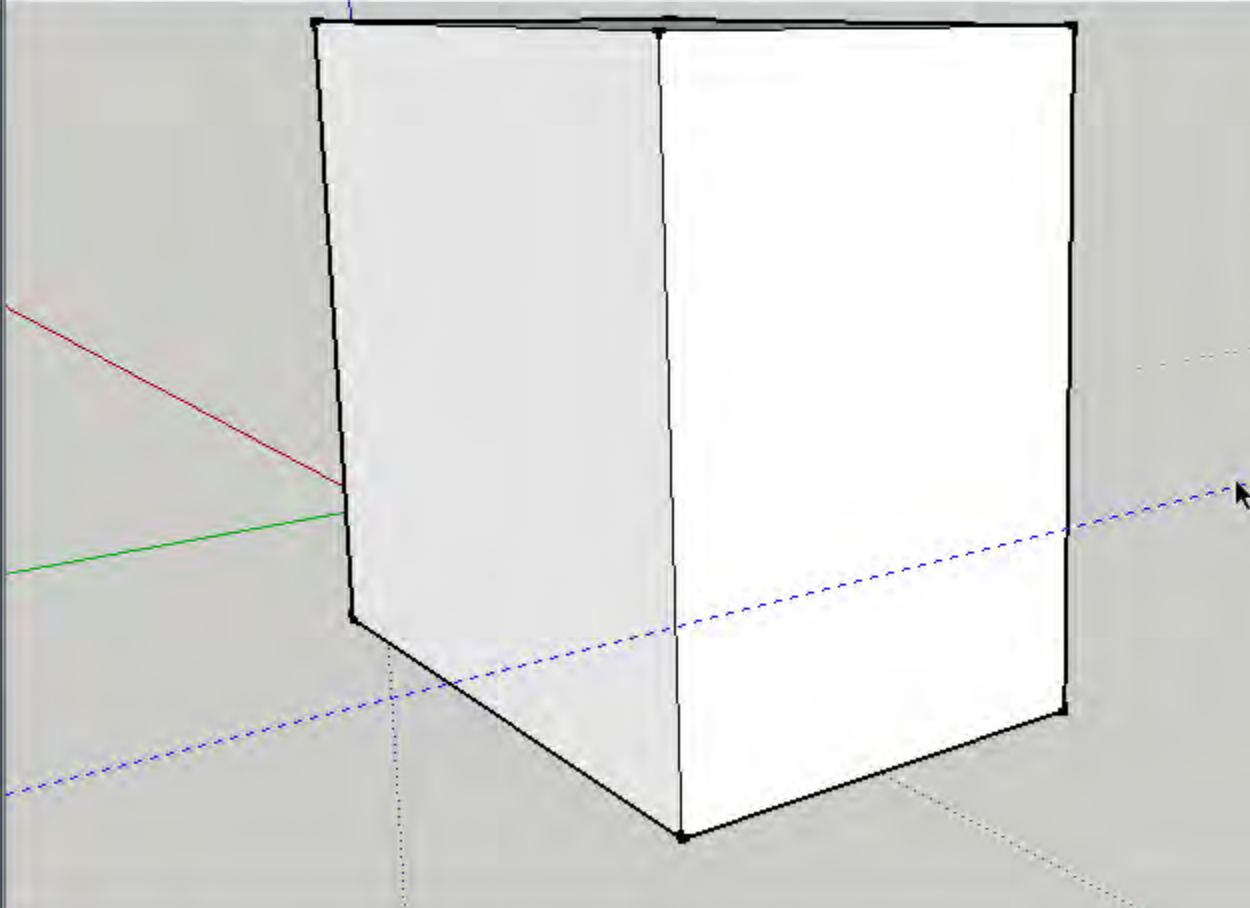


Place a guidepoint on the guideline 2" away from the edge of the shape. Draw a line between this point and the lower left corner.

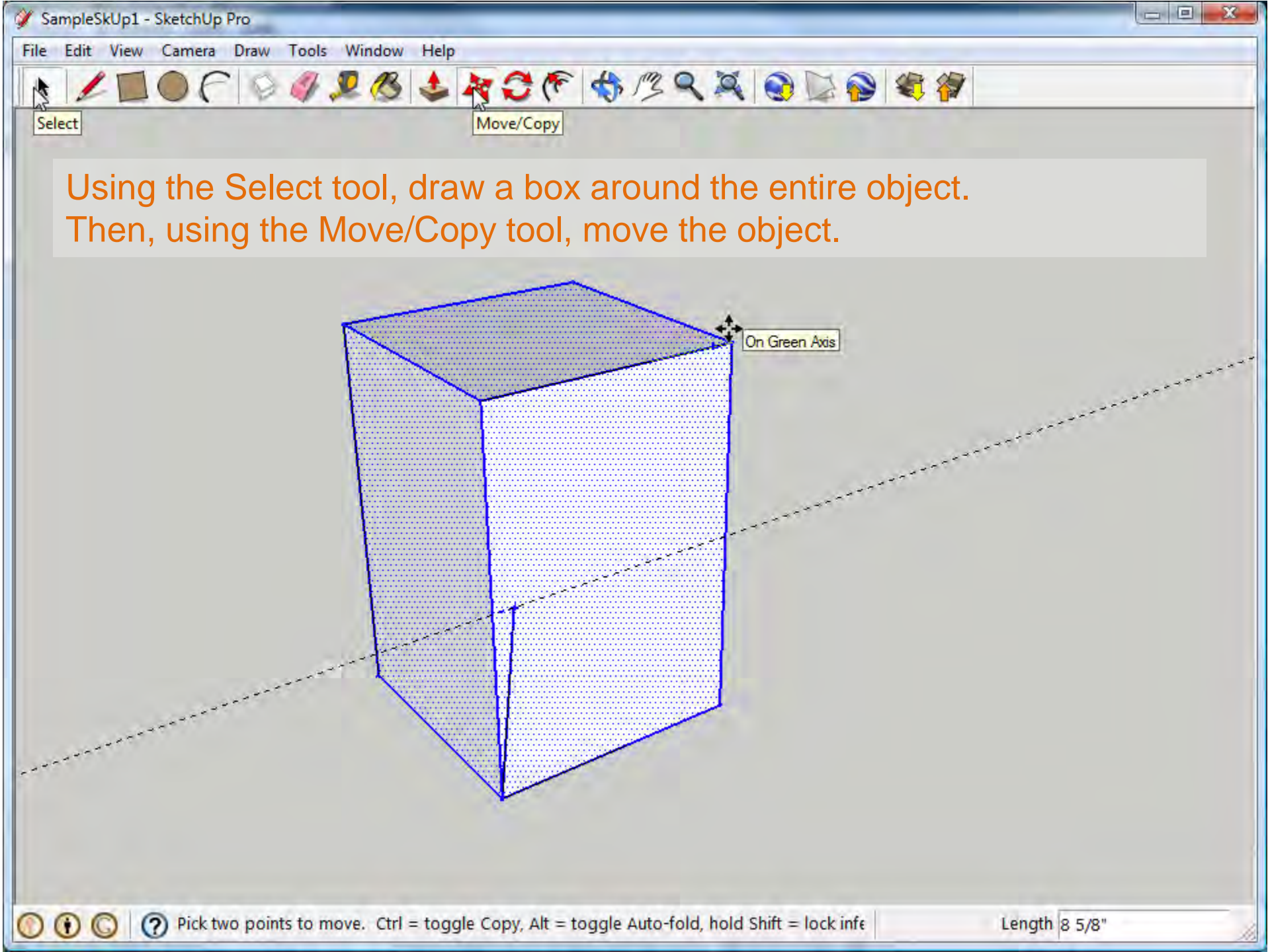




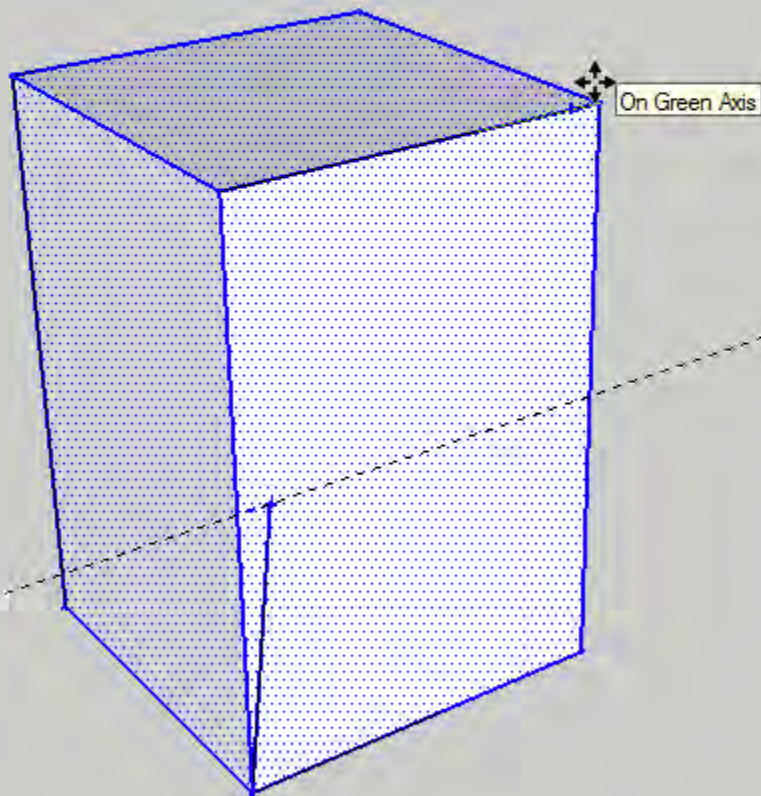
Note that guides can be selected and deleted like other elements.  
They can be Hidden: Select the guide, Edit>Hide



- Undo Push/Pull Ctrl+Z
- Redo Ctrl+Y
- Cut Ctrl+X
- Copy Ctrl+C
- Paste Ctrl+V
- Paste In Place
- Delete Delete
- Delete Guides
- Select All Ctrl+A
- Select None Ctrl+T
- Hide**
- Unhide
- Lock
- Unlock
- Make Component... G
- Make Group
- Close Group/Component
- Intersect
- Guide



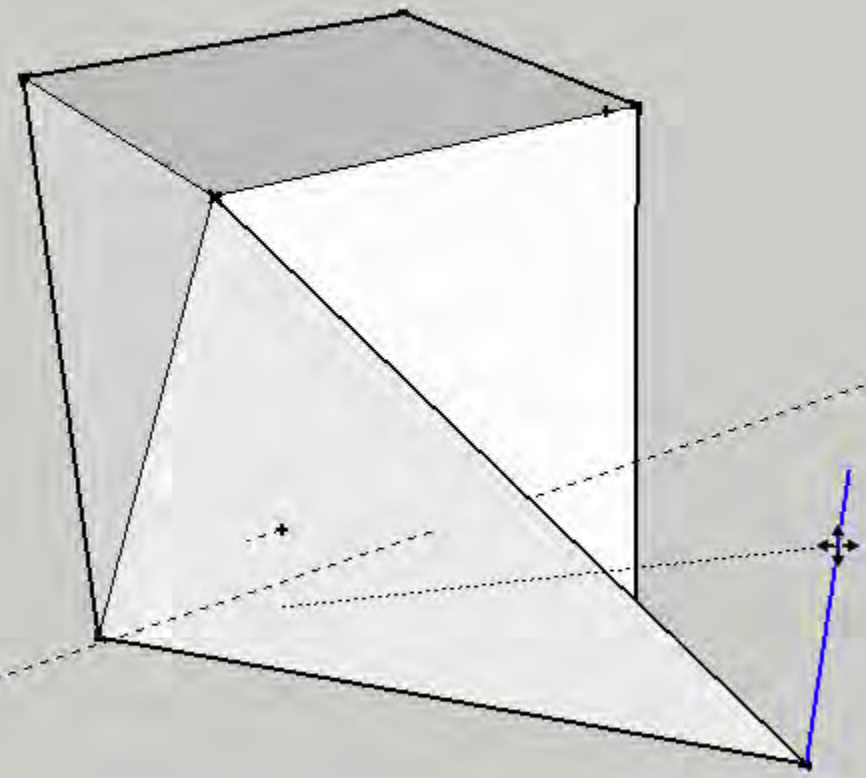
Using the Select tool, draw a box around the entire object. Then, using the Move/Copy tool, move the object.





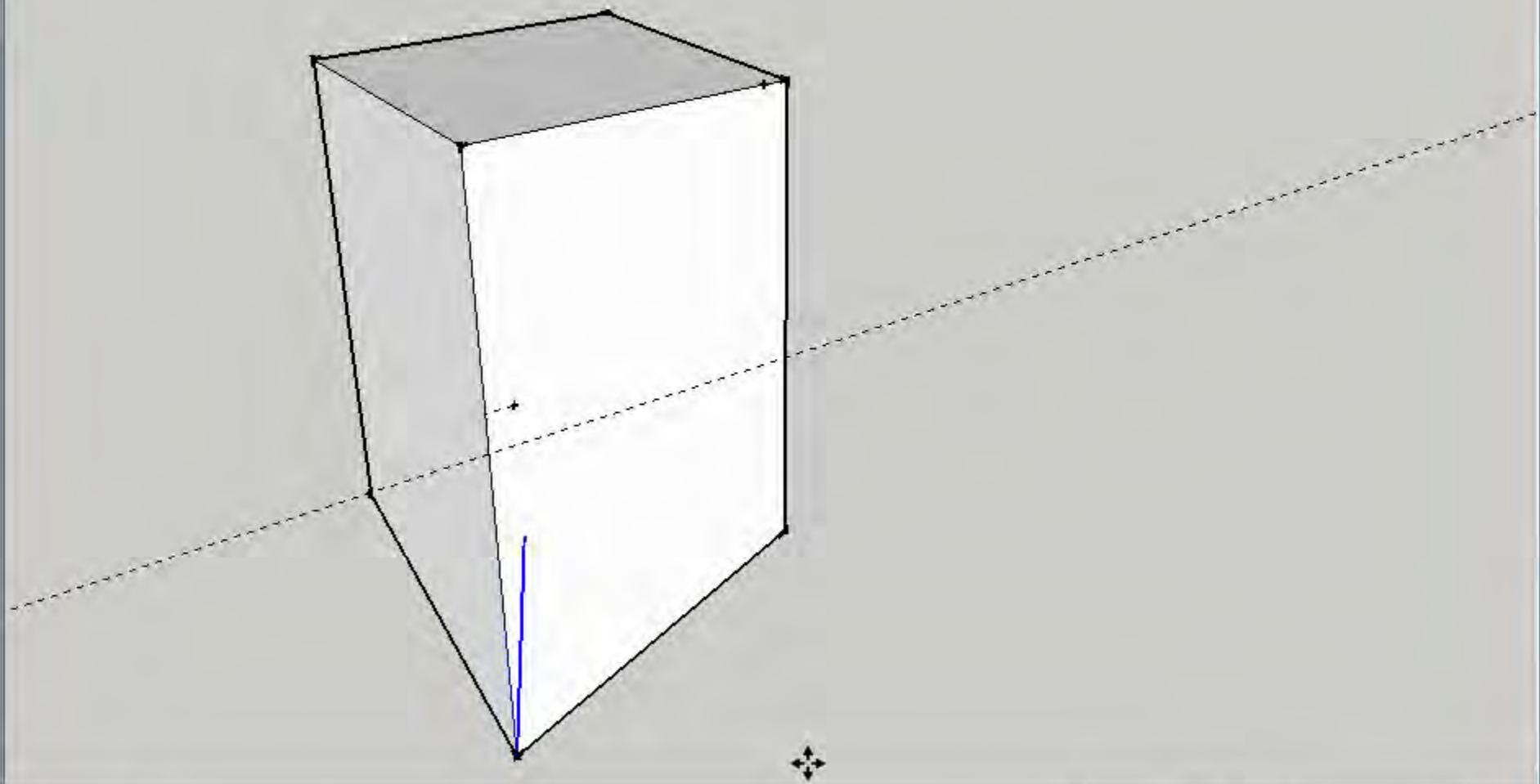


Now, with just the line selected, try to move the line.  
Notice that the original form is “sticky” and follows the Move tool.





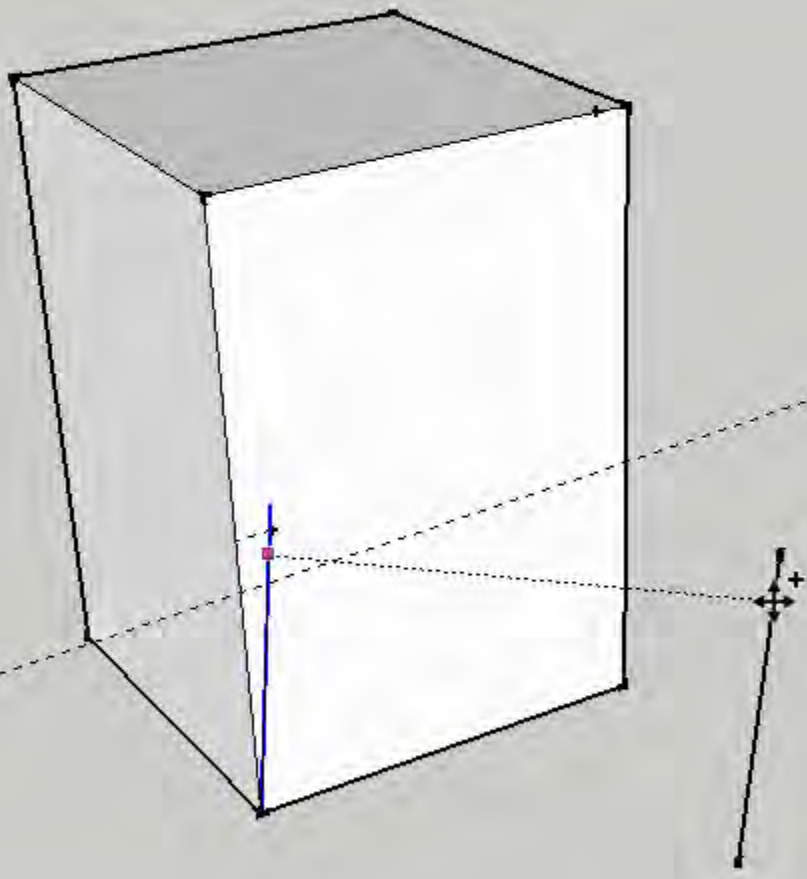
Holding down the Shift key while moving will constrain the axis.



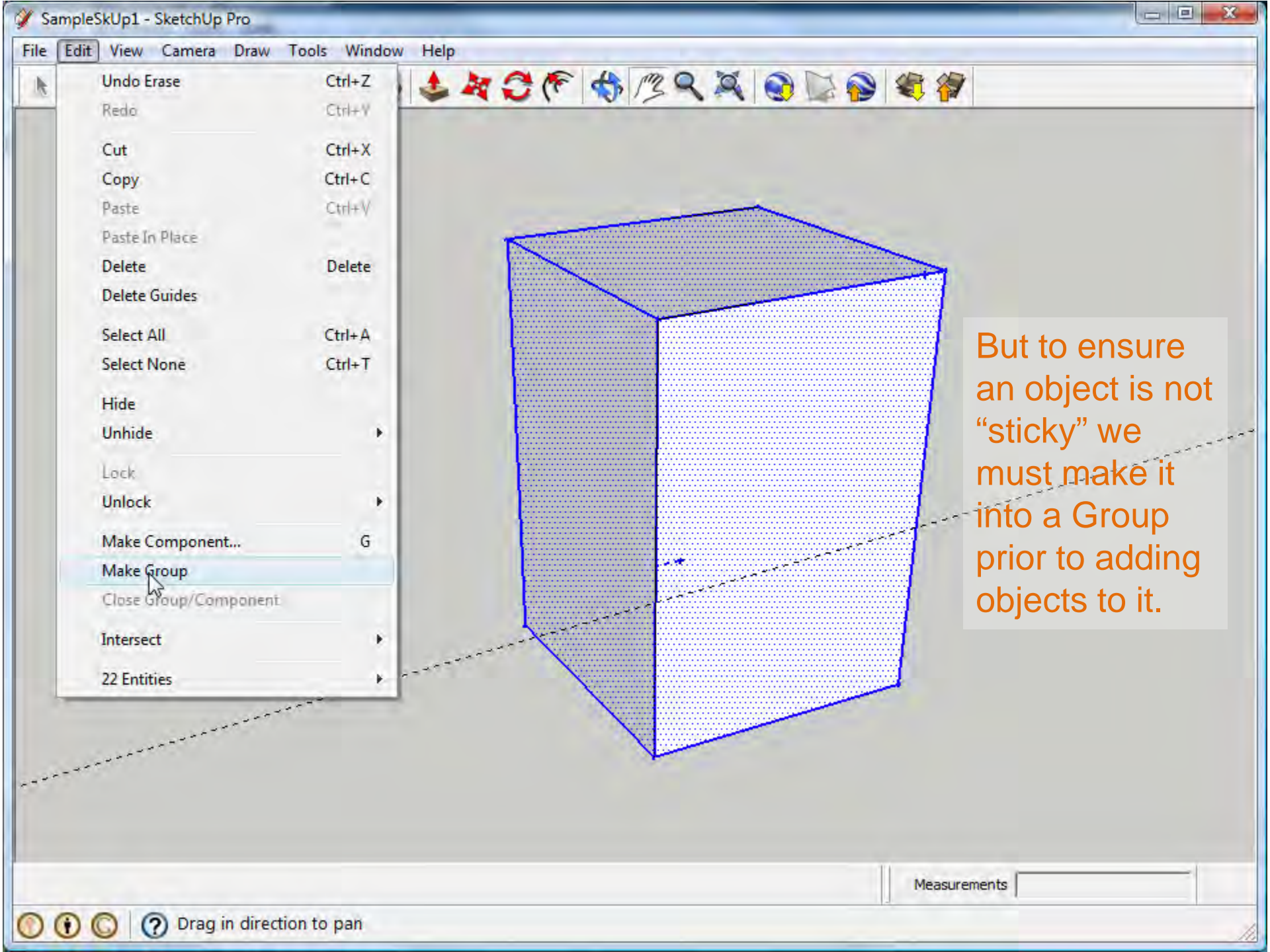
Length ~ 11 1/2"



Holding down the Ctrl key while moving will create a copy.



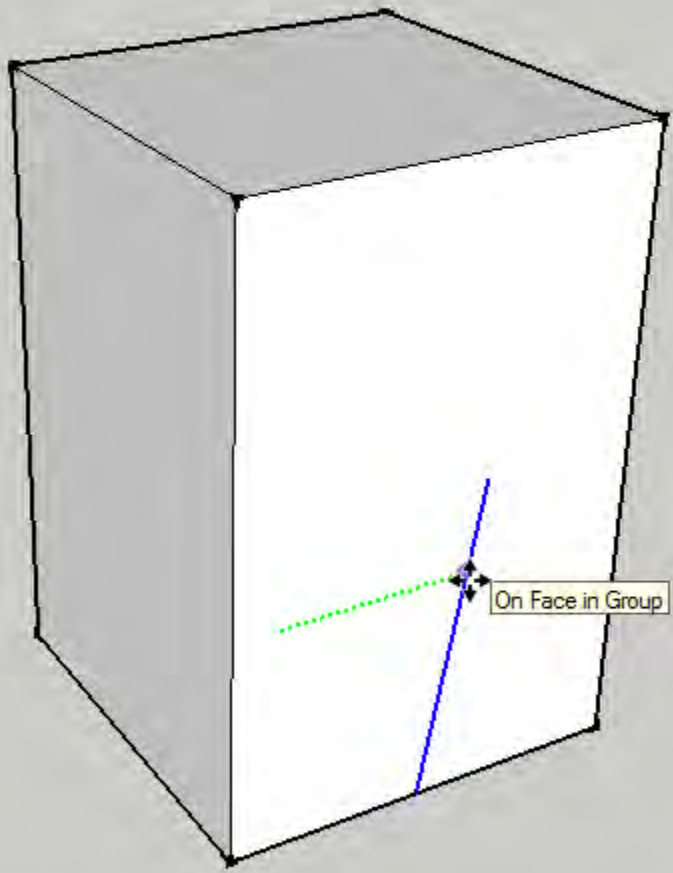




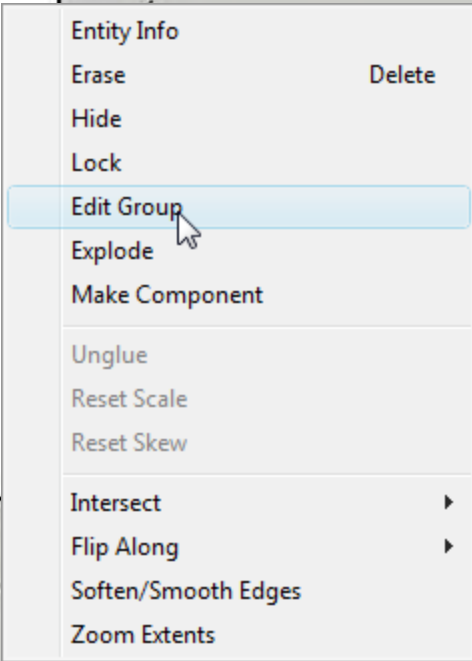
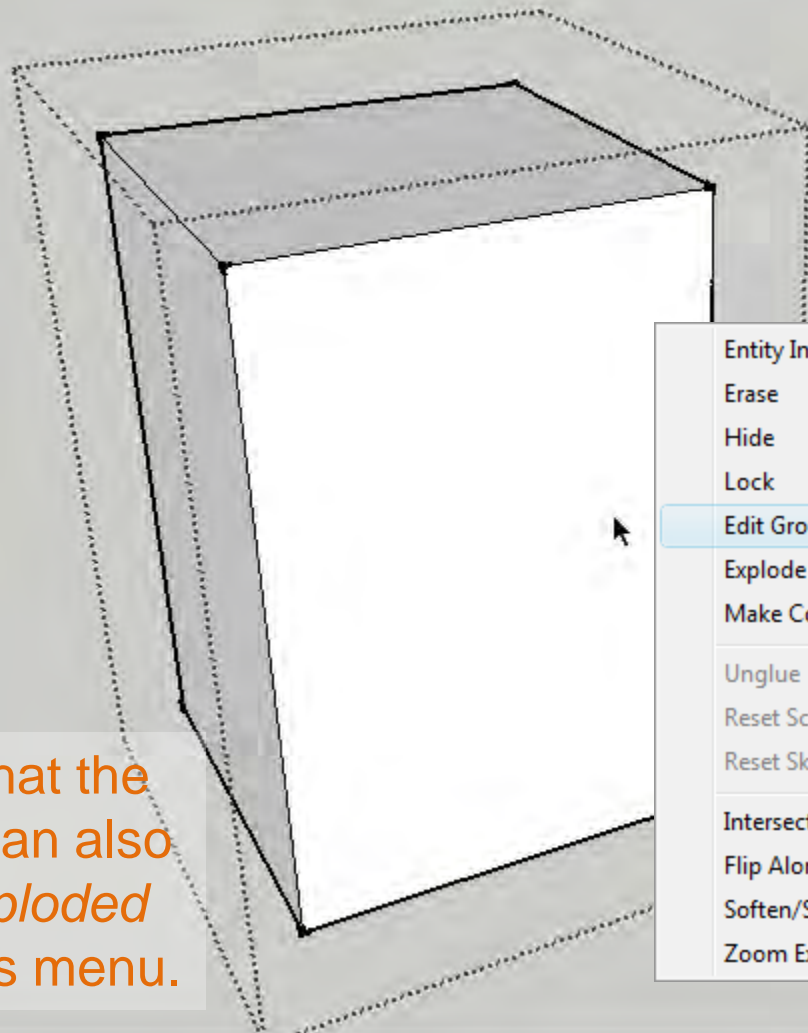
But to ensure an object is not "sticky" we must make it into a Group prior to adding objects to it.



Now we can work with and manipulate objects without allowing them to “stick” to one another.



Length 11 9/16"



We can Edit the Group just made by selecting the object and *right-clicking*.

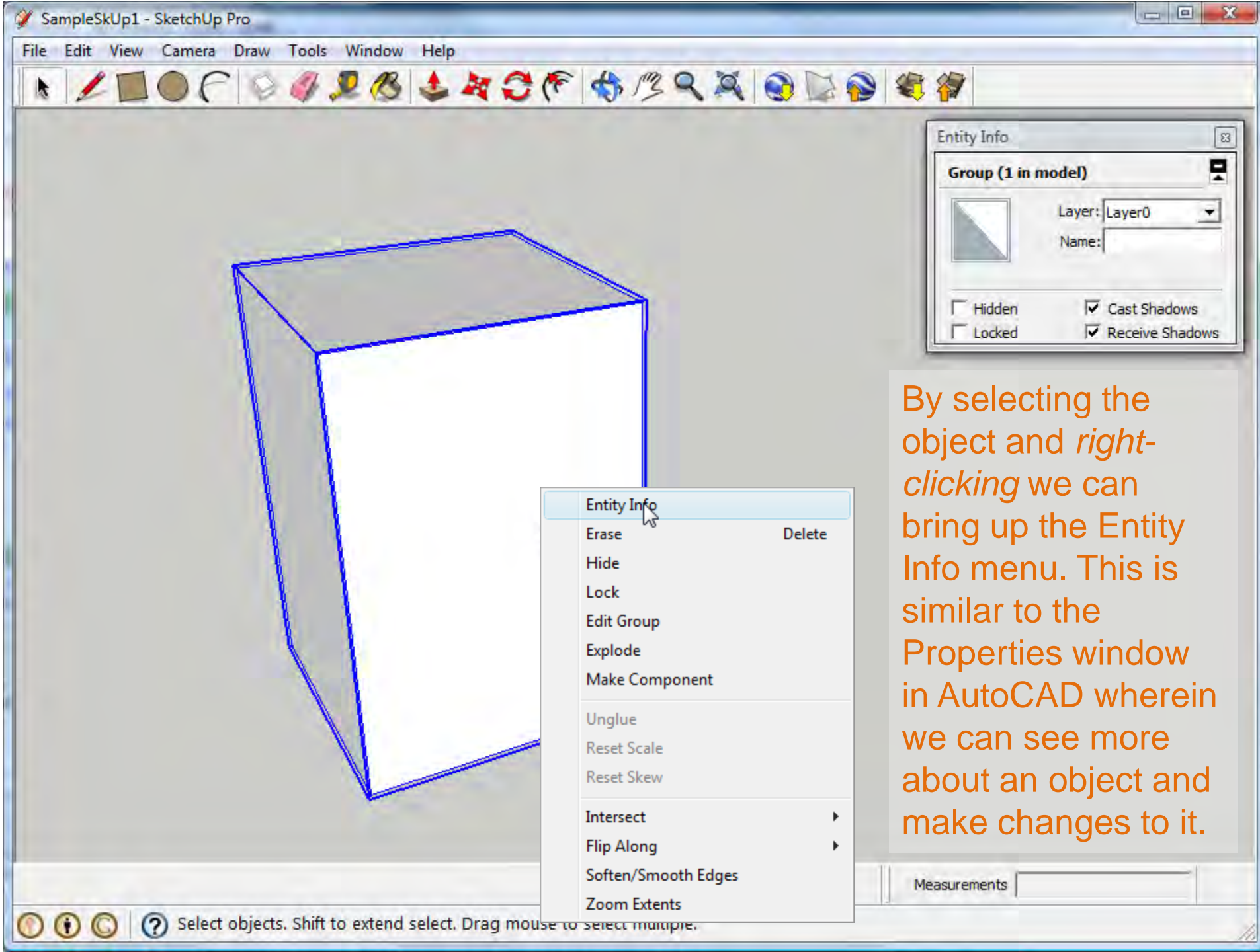
More objects can be added to the group (identified by the dashed bounding box).

When complete click outside of the bounding box to close.

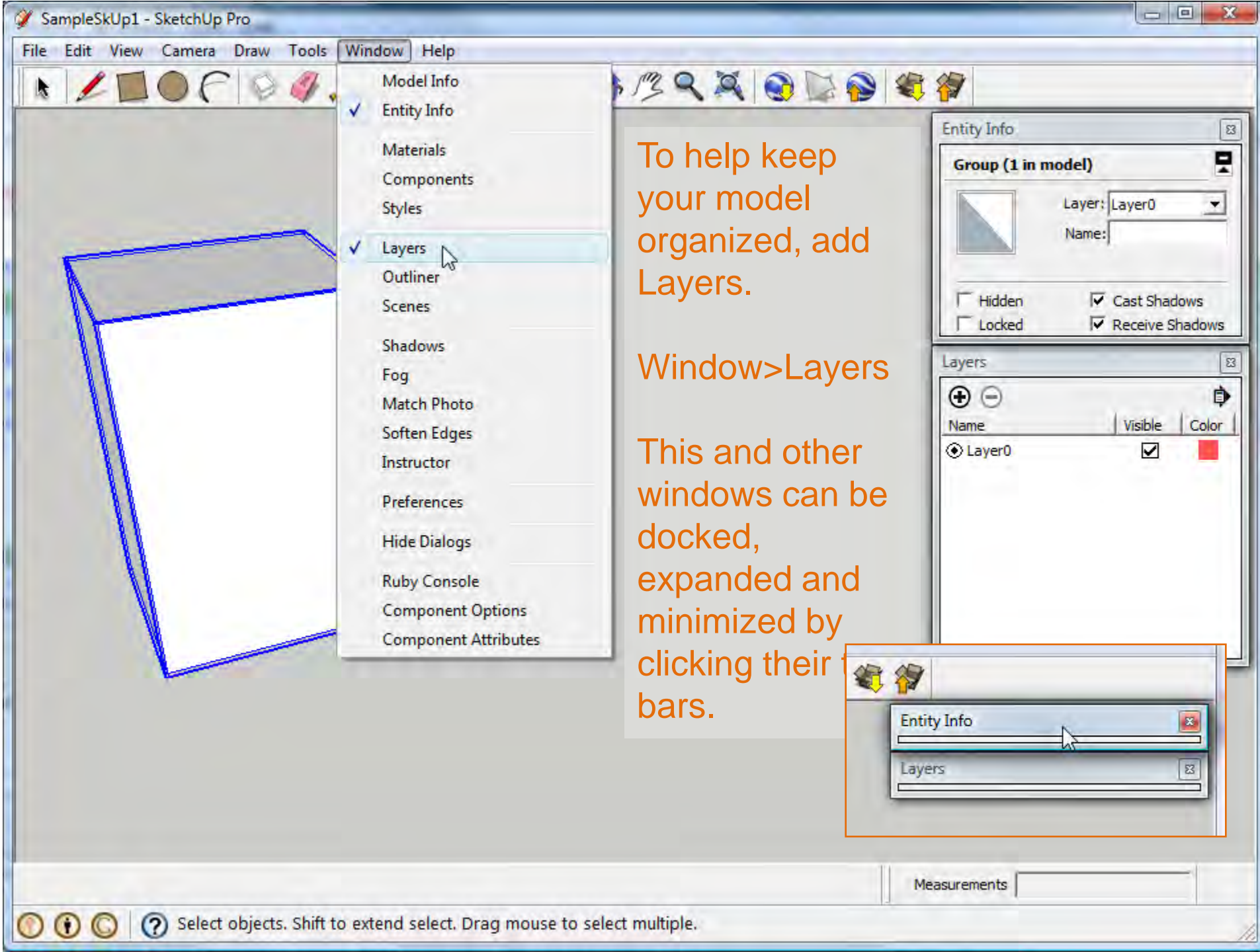
Note that the group can also be *Exploded* from this menu.

Measurements





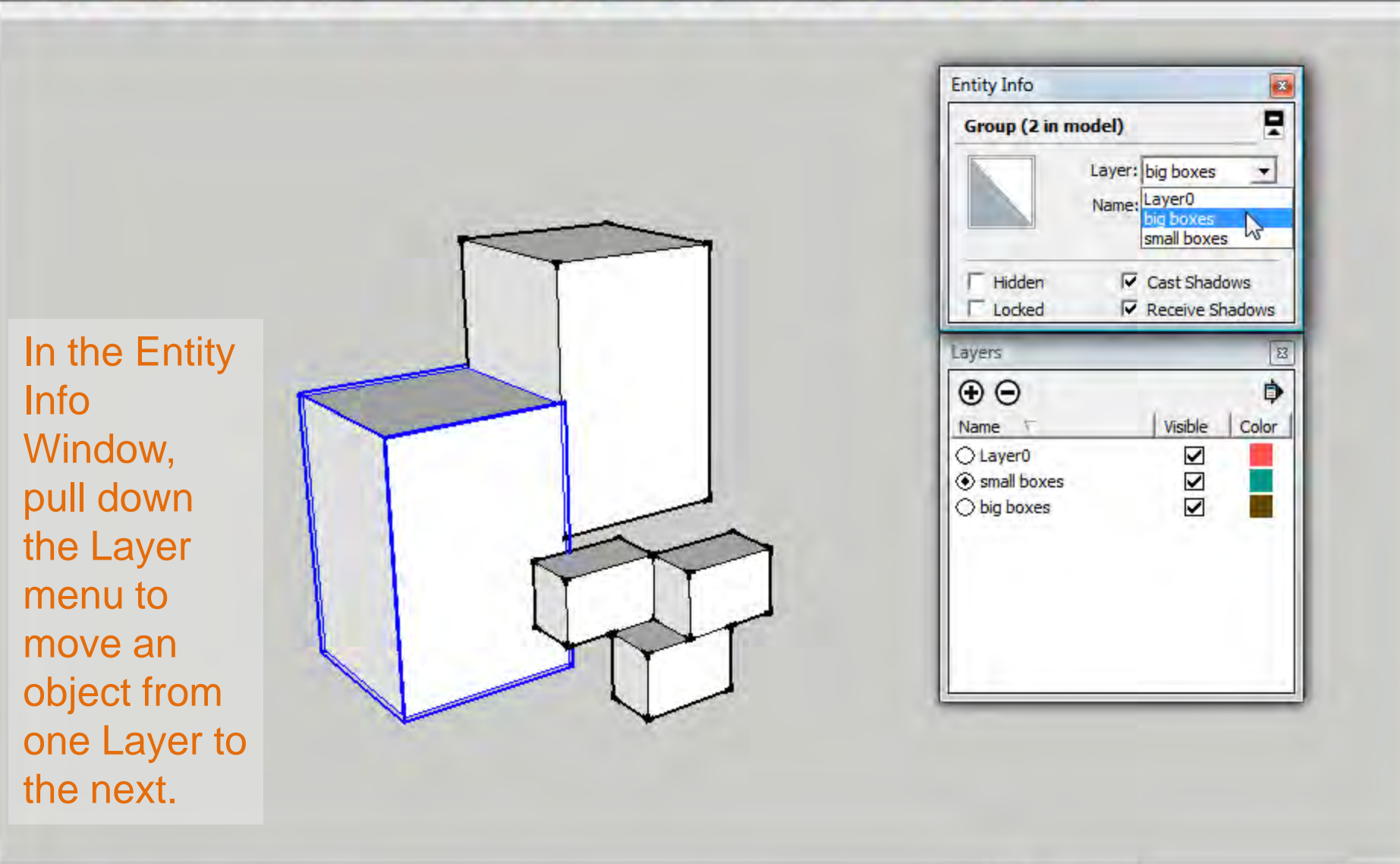
By selecting the object and *right-clicking* we can bring up the Entity Info menu. This is similar to the Properties window in AutoCAD wherein we can see more about an object and make changes to it.



To help keep your model organized, add Layers.

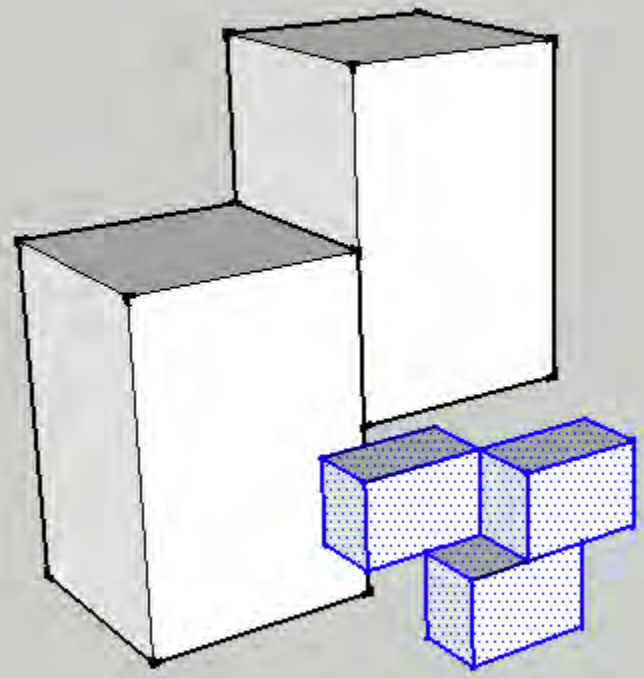
Window>Layers

This and other windows can be docked, expanded and minimized by clicking their bars.



In the Entity Info Window, pull down the Layer menu to move an object from one Layer to the next.





Entity Info

56 Entities

Layer: small boxes

Hidden

Layers

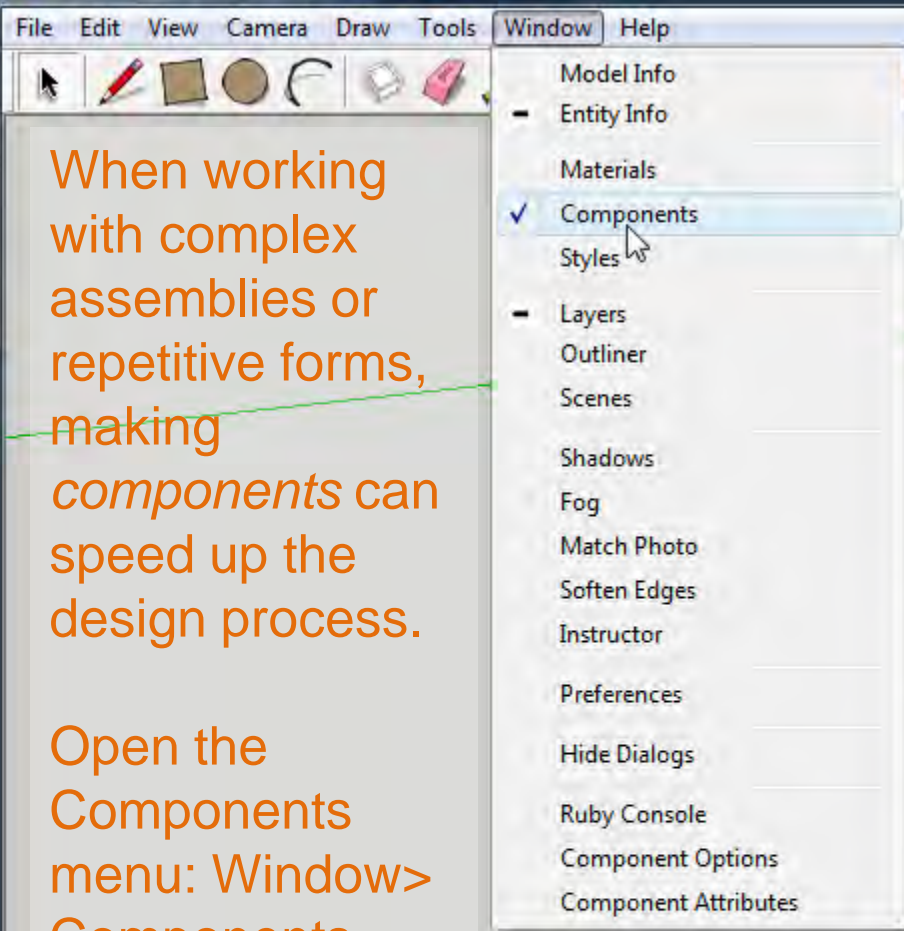
Name	Visible	Color
<input type="radio"/> Layer0	<input checked="" type="checkbox"/>	Red
<input checked="" type="radio"/> small boxes	<input checked="" type="checkbox"/>	Green
<input type="radio"/> big boxes	<input checked="" type="checkbox"/>	Brown

Layers

Name	Visible	Color
<input type="radio"/> Layer0	<input checked="" type="checkbox"/>	Red
<input checked="" type="radio"/> small boxes	<input checked="" type="checkbox"/>	Green
<input type="radio"/> big boxes	<input type="checkbox"/>	Brown

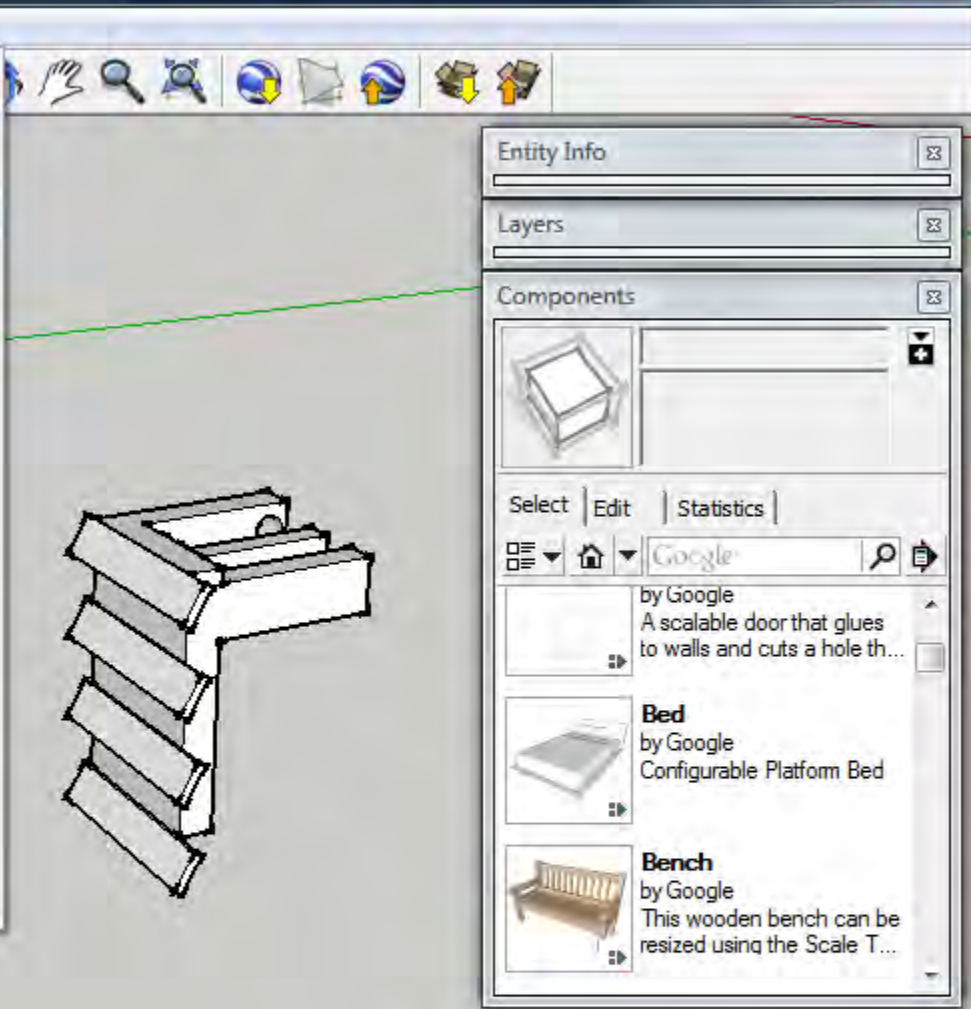
In the Layers Window, a dot next to the Layer names means it is active: all elements will now be drawn on that Layer.

Turn Layers On and Off here.



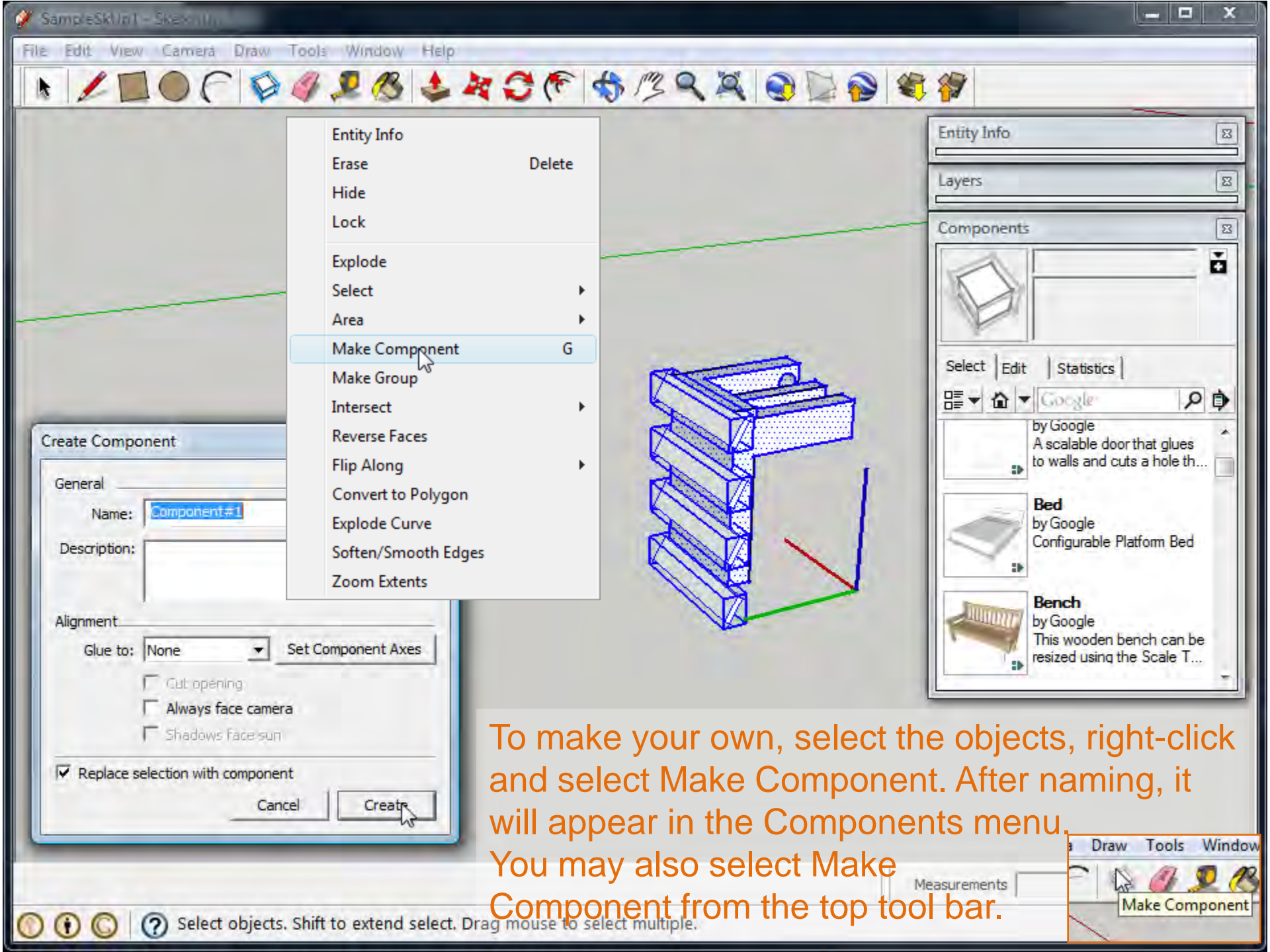
When working with complex assemblies or repetitive forms, making components can speed up the design process.

Open the Components menu: Window > Components



Notice that there are pre-made components to choose from. A Google search will turn up many others.





- Entity Info
- Erase Delete
- Hide
- Lock
- Explode
- Select ▶
- Area ▶
- Make Component** G
- Make Group
- Intersect ▶
- Reverse Faces
- Flip Along ▶
- Convert to Polygon
- Explode Curve
- Soften/Smooth Edges
- Zoom Extents

Create Component

General

Name:

Description:

Alignment

Glue to:

Cut opening

Always face camera

Shadows face sun

Replace selection with component

Entity Info

Layers

Components

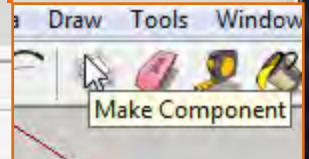
Select | Edit | Statistics

by Google  
A scalable door that glues to walls and cuts a hole th...

**Bed**  
by Google  
Configurable Platform Bed

**Bench**  
by Google  
This wooden bench can be resized using the Scale T...

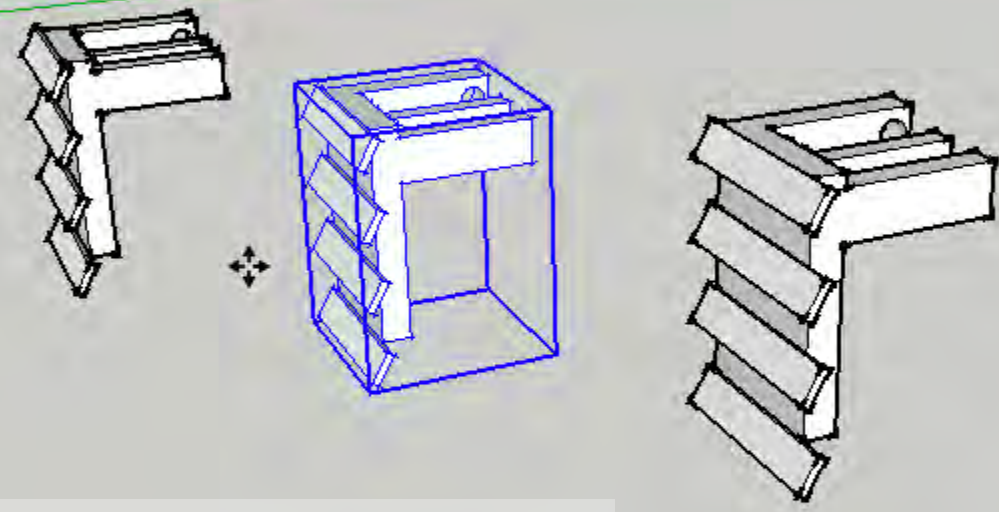
To make your own, select the objects, right-click and select Make Component. After naming, it will appear in the Components menu. You may also select Make Component from the top tool bar.







Note that by selecting the component from the Components tool bar it can be placed within the drawing.



An edit made to one of the components will affect all other components, speeding up revisions.

Entity Info

Layers

Components

Component#1

Select | Edit | Statistics

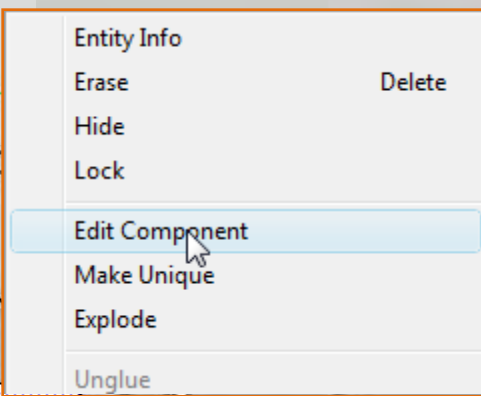
Google

**Component#1**  
by Unknown  
No Description

Component#1  
**Sang**  
by Google  
Sang is a member of the SketchUp development team...



To Edit a component, select it and right-click. Notice that the changes propagate to all other versions.



Entity Info

Layers

Components

Component#1

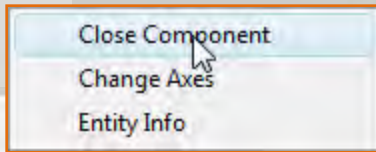
Select | Edit | Statistics

Google

**Component#1**  
by Unknown  
No Description

**Sang**  
by Google  
Sang is a member of the SketchUp development team...

To end edits, right click within the bounding box and select Close Component.

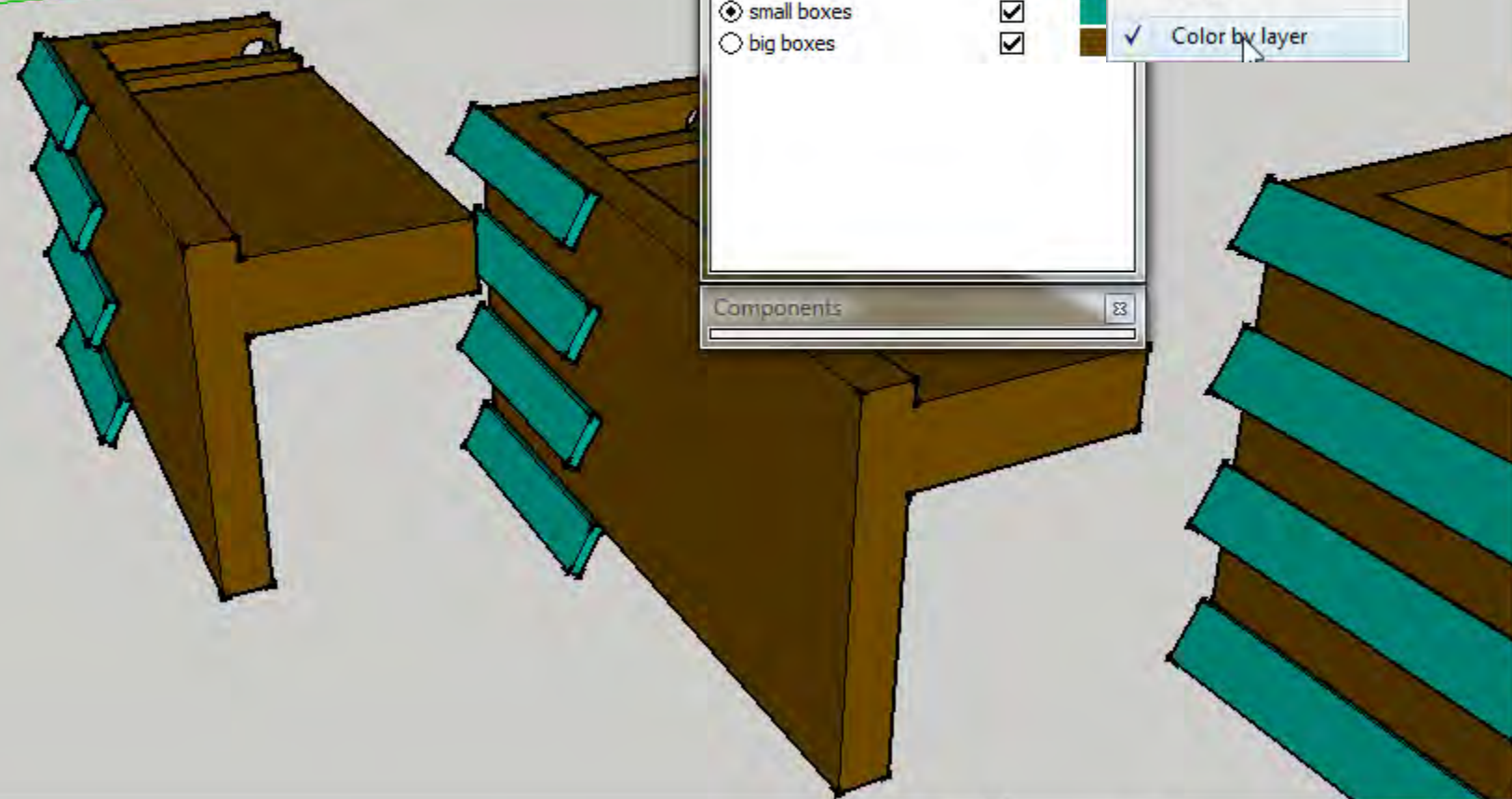


Length ~ 3' 1 13/16"





Select Color by Layer to visibly differentiate between Layers quickly.



Entity Info

Layers

Name	Visible	Color
<input type="radio"/> Layer0	<input checked="" type="checkbox"/>	
<input checked="" type="radio"/> small boxes	<input checked="" type="checkbox"/>	
<input type="radio"/> big boxes	<input checked="" type="checkbox"/>	

Components

Select All

Purge

Color by layer

Length





Materials

Default

Select Edit

Materials

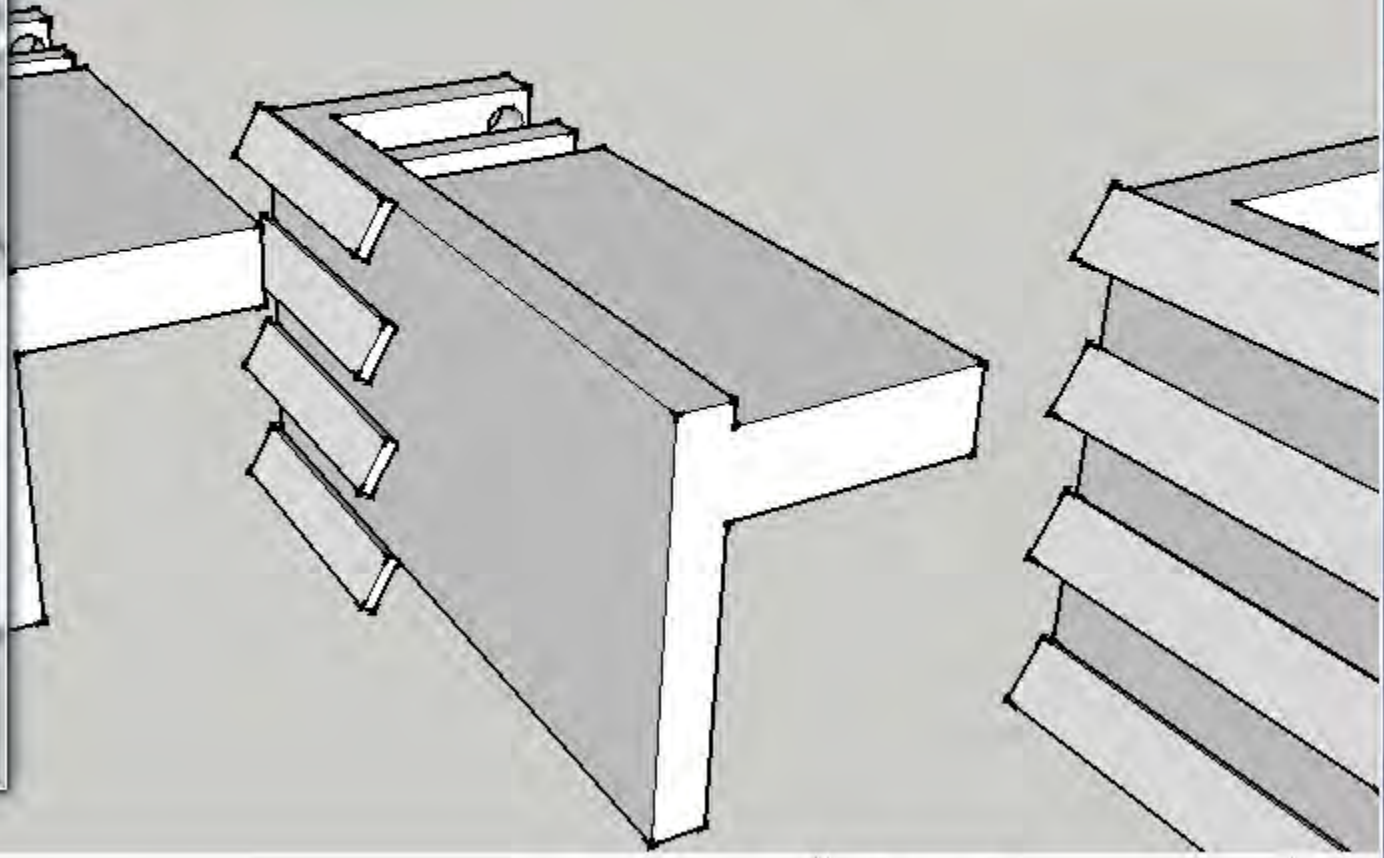
Asphalt	Blinds	Brick and	Carpet a
Colors	Colors-N	Fencing	Groundc
Markers	Metal	Roofing	Sketchy
Stone	Tile	Transluc	Vegetati
Water	Wood		

Select the Paintbucket to apply your own colors to elements.

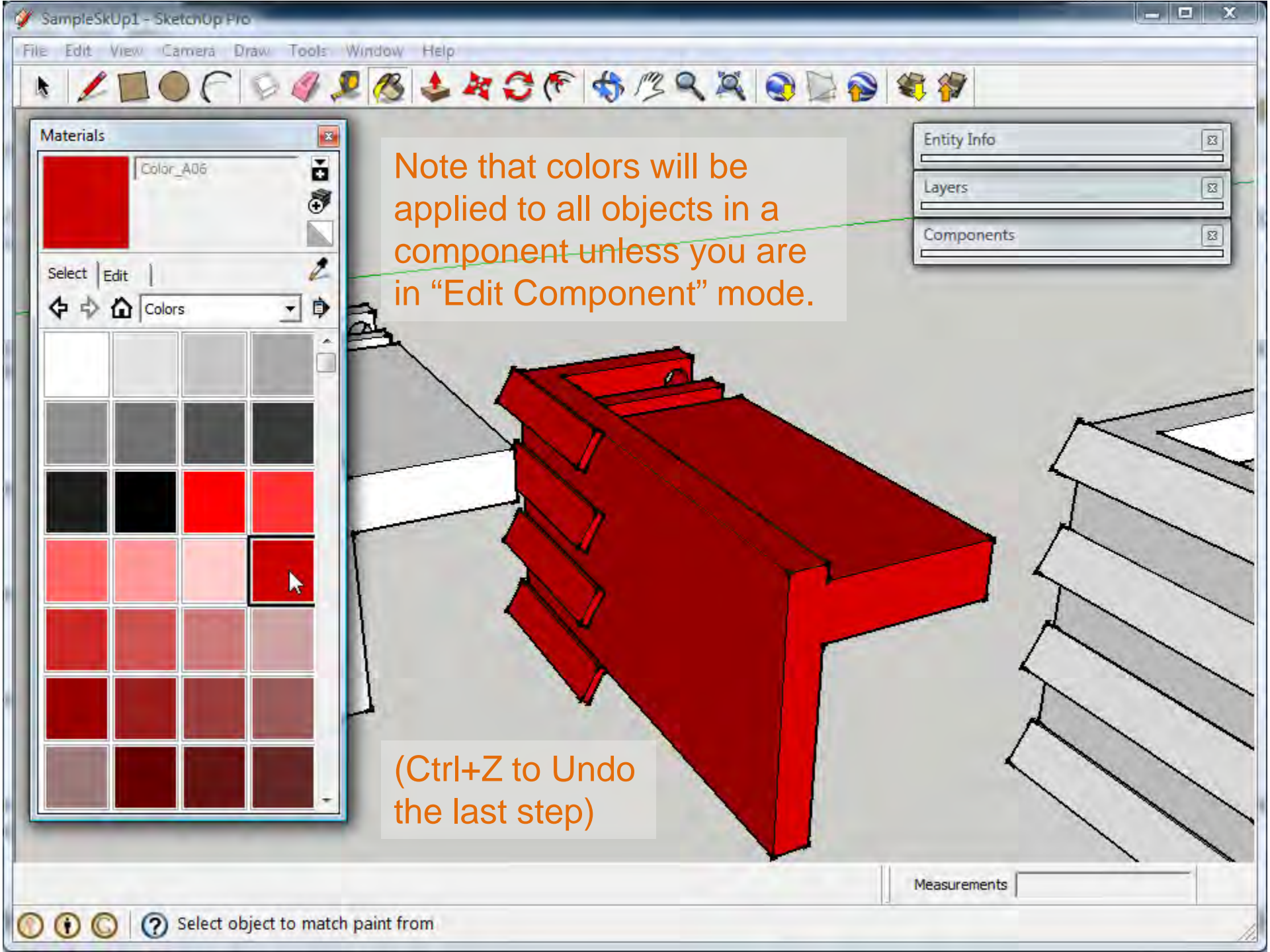
Entity Info

Layers

Components



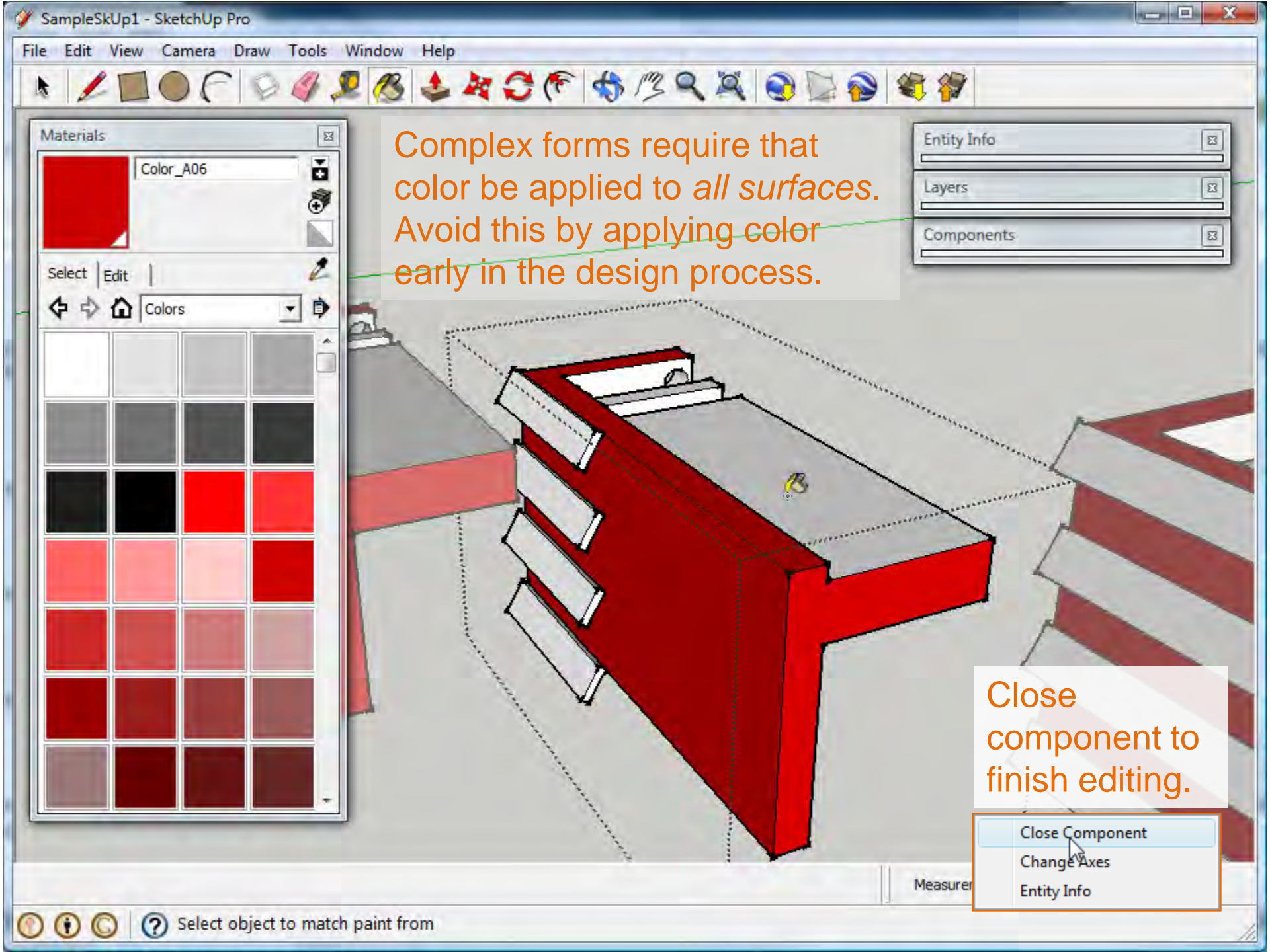
Measurements



Note that colors will be applied to all objects in a component unless you are in "Edit Component" mode.

(Ctrl+Z to Undo the last step)





Complex forms require that color be applied to *all surfaces*. Avoid this by applying color early in the design process.

Close component to finish editing.

- Close Component
- Change Axes
- Entity Info





Now by switching Color by Layer on and Off you can see your applied colors or the assigned Layer colors.

Entity Info

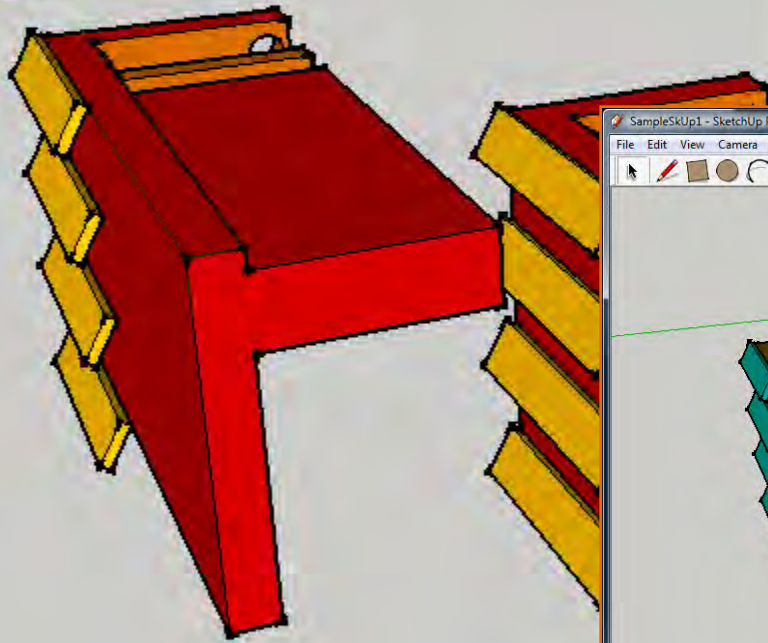
Layers

Name	Visible	Color
<input type="radio"/> Layer0	<input checked="" type="checkbox"/>	<span style="color: red;">■</span>
<input checked="" type="radio"/> small boxes	<input checked="" type="checkbox"/>	<span style="color: teal;">■</span>
<input type="radio"/> big boxes	<input checked="" type="checkbox"/>	<span style="color: brown;">■</span>

Select All

Purge

**Color by layer**



SampleSkUp1 - SketchUp Pro

File Edit View Camera Draw Tools Window Help

Entity Info

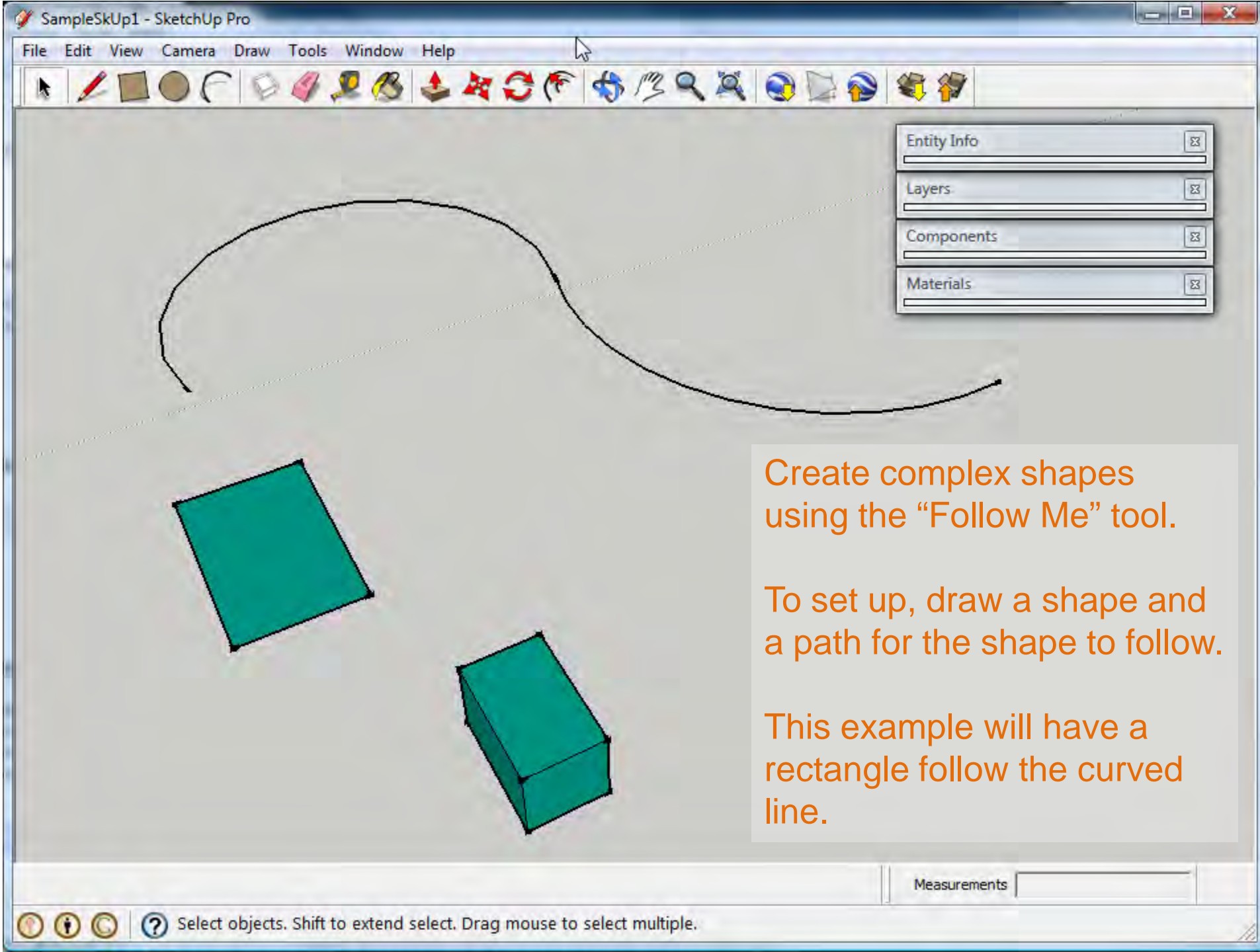
Layers

Components

Materials

Measurements

Select objects. Shift to extend select. Drag mouse to select multiple.



Create complex shapes using the "Follow Me" tool.

To set up, draw a shape and a path for the shape to follow.

This example will have a rectangle follow the curved line.



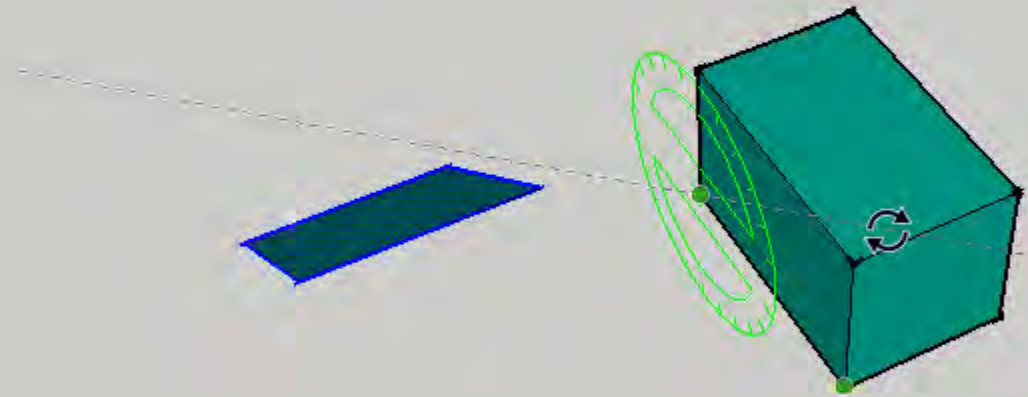
Entity Info

Layers

Components

Materials

Use a 3D object to assist in rotating the flat rectangle into the appropriate vertical position.



Angle 38.8





Entity Info

---

Layers

---

Components

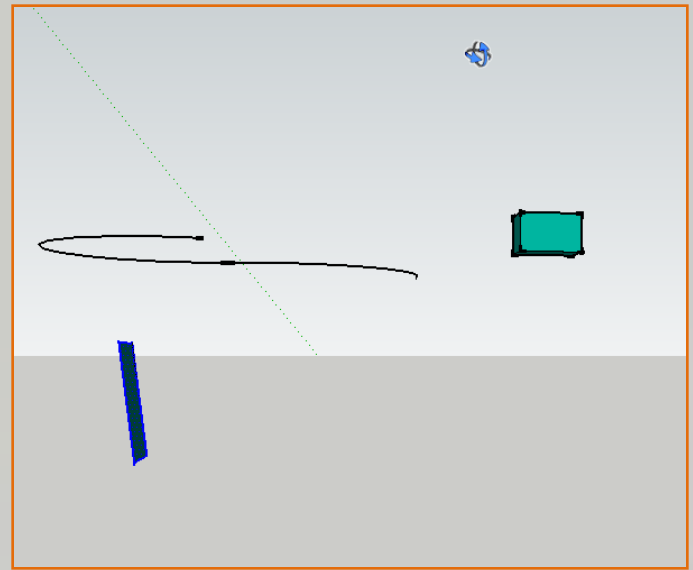
---

Materials

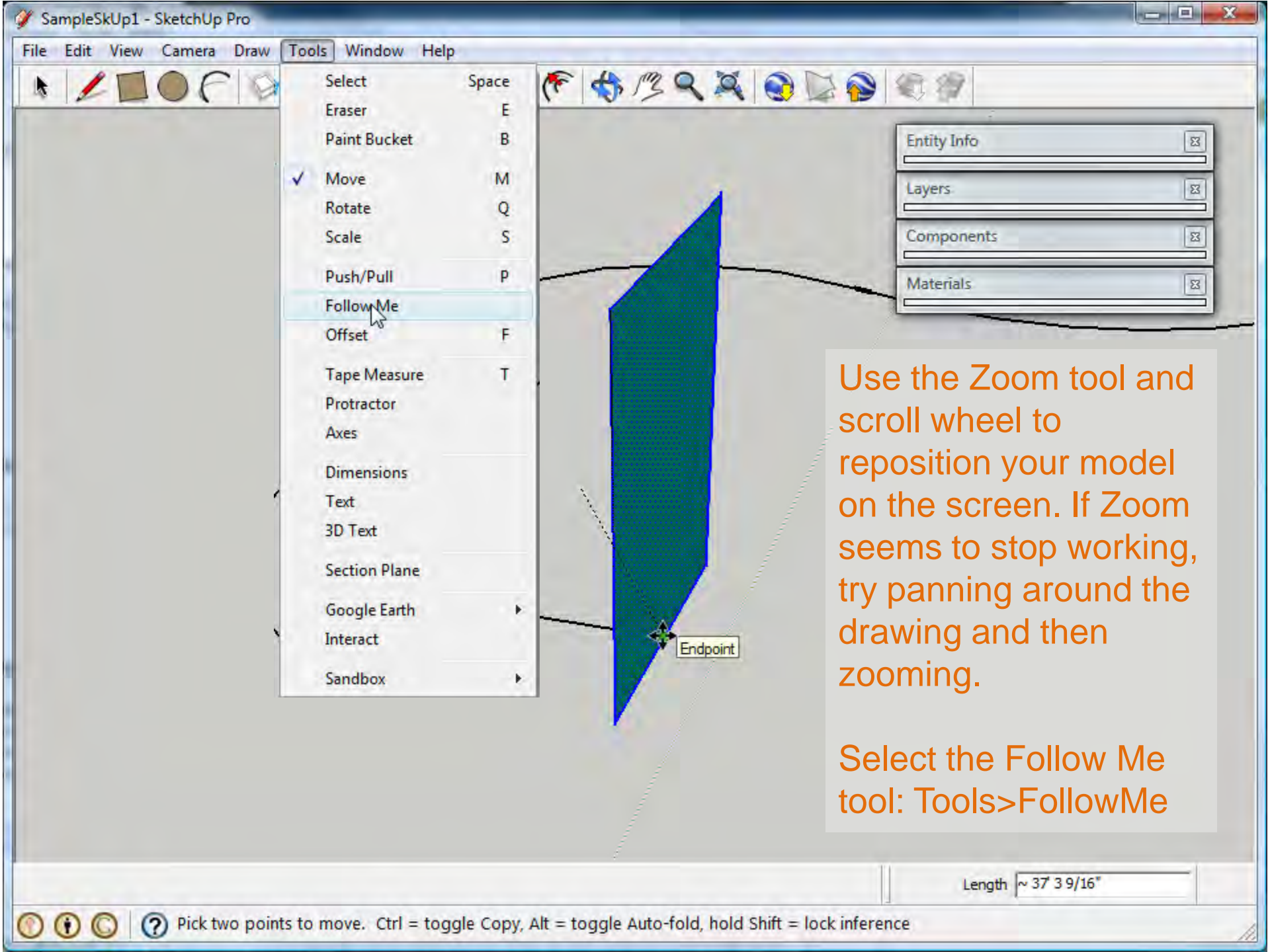
---



Move the rectangle into position. Look for visual cues for alignment. When moving objects in 3D space it's important to rotate around a drawing to ensure objects are where you intend them to be.

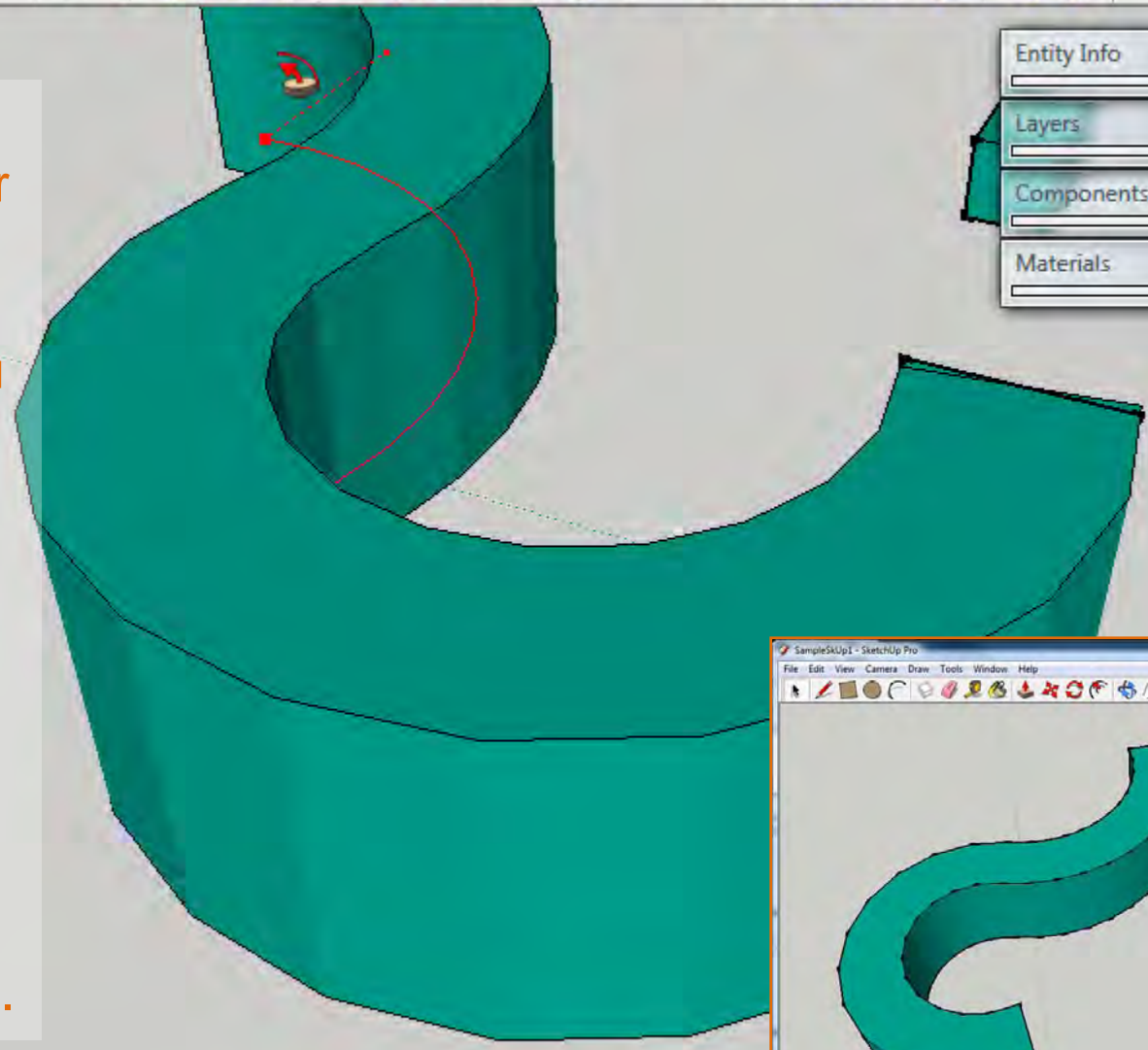


Length 34' 4 3/4"



Use the Zoom tool and scroll wheel to reposition your model on the screen. If Zoom seems to stop working, try panning around the drawing and then zooming.

Select the Follow Me tool: Tools>FollowMe



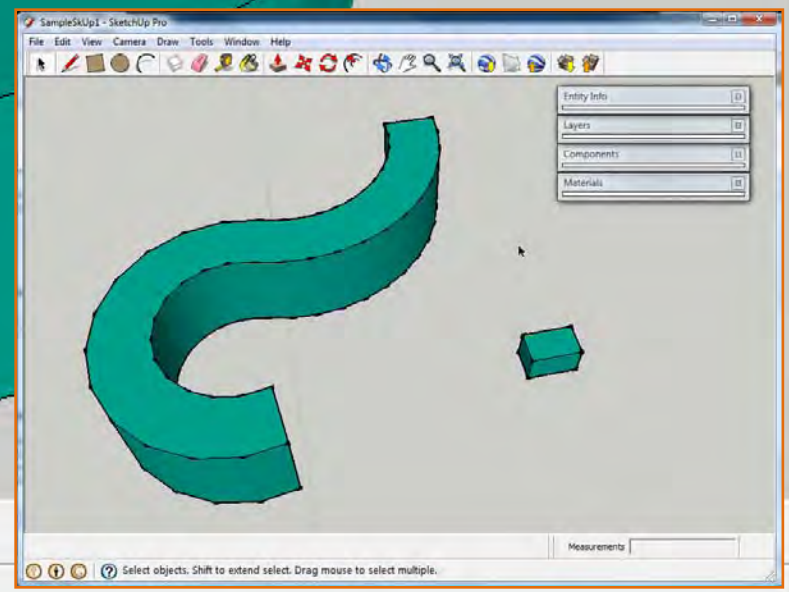
Entity Info

Layers

Components

Materials

Drag the rectangular profile along the path. If you cannot complete the path, you may need to reposition the model or ensure the path is continuous.





- New Ctrl+N
- Open... Ctrl+O
- Save Ctrl+S
- Save As...
- Save A Copy As...
- Save As Template...
- Revert
- Send to LayOut
- 3D Warehouse ▶
- Export ▶
- Import...
- Print Setup...
- Print Preview...
- Print... Ctrl+P
- Generate Report...
- 1 SampleSketchUp1
- 2 C:\Users\...\Temp\garden2
- 3 C:\Users\...\Garden Final
- 4 C:\Users\...\Garden
- 5 C:\Users\...\Garden\_model
- Exit



From your model you may create still 2D images that capture you design intent to be used in presentations.

- 3D Model...
- 2D Graphic...
- Section Slice...
- Animation...

Entity Info

---

Layers

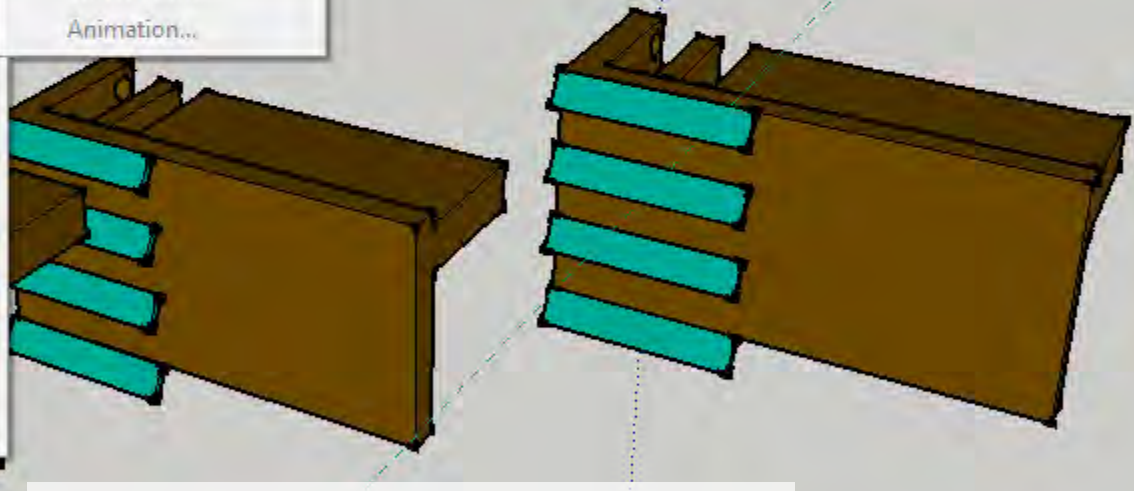
---

Components

---

Materials

---



Export .JPGs from your model to work with in Photoshop.  
**File>Export>2D Graphic**

Measurements



Export 2D Graphic

Save in: Week 5

Name	Date modified	Type	Size
This folder is empty.			

Recent Places

- Desktop
- Lauren
- Computer
- Network

File name: image1

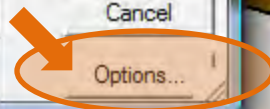
Export type: JPEG Image (\*.jpg)

- Portable document Format (\*.pdf)
- Encapsulated PostScript Format (\*.eps)
- Windows Bitmap (\*.bmp)
- JPEG Image (\*.jpg)
- Tagged Image File (\*.tif)
- Portable Network Graphics (\*.png)
- Piranesi Epix (\*.epx)
- AutoCAD DWG (\*.dwg)
- AutoCAD DXF (\*.dxf)

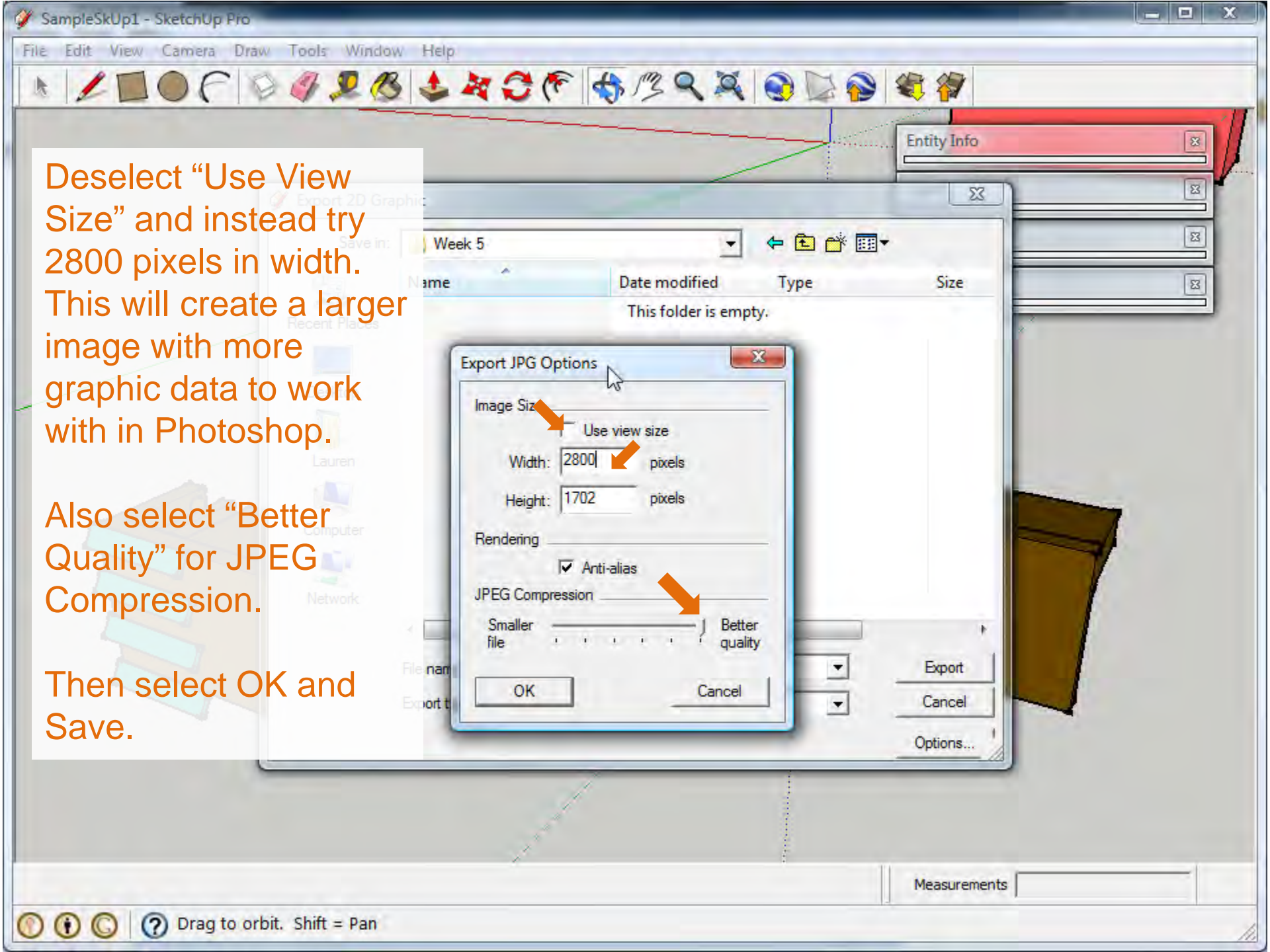
Buttons: Export, Cancel, Options...

Select JPEG Image from the Export type Pulldown menu.

Before saving, select "Options"







Deselect "Use View Size" and instead try 2800 pixels in width. This will create a larger image with more graphic data to work with in Photoshop.

Also select "Better Quality" for JPEG Compression.

Then select OK and Save.