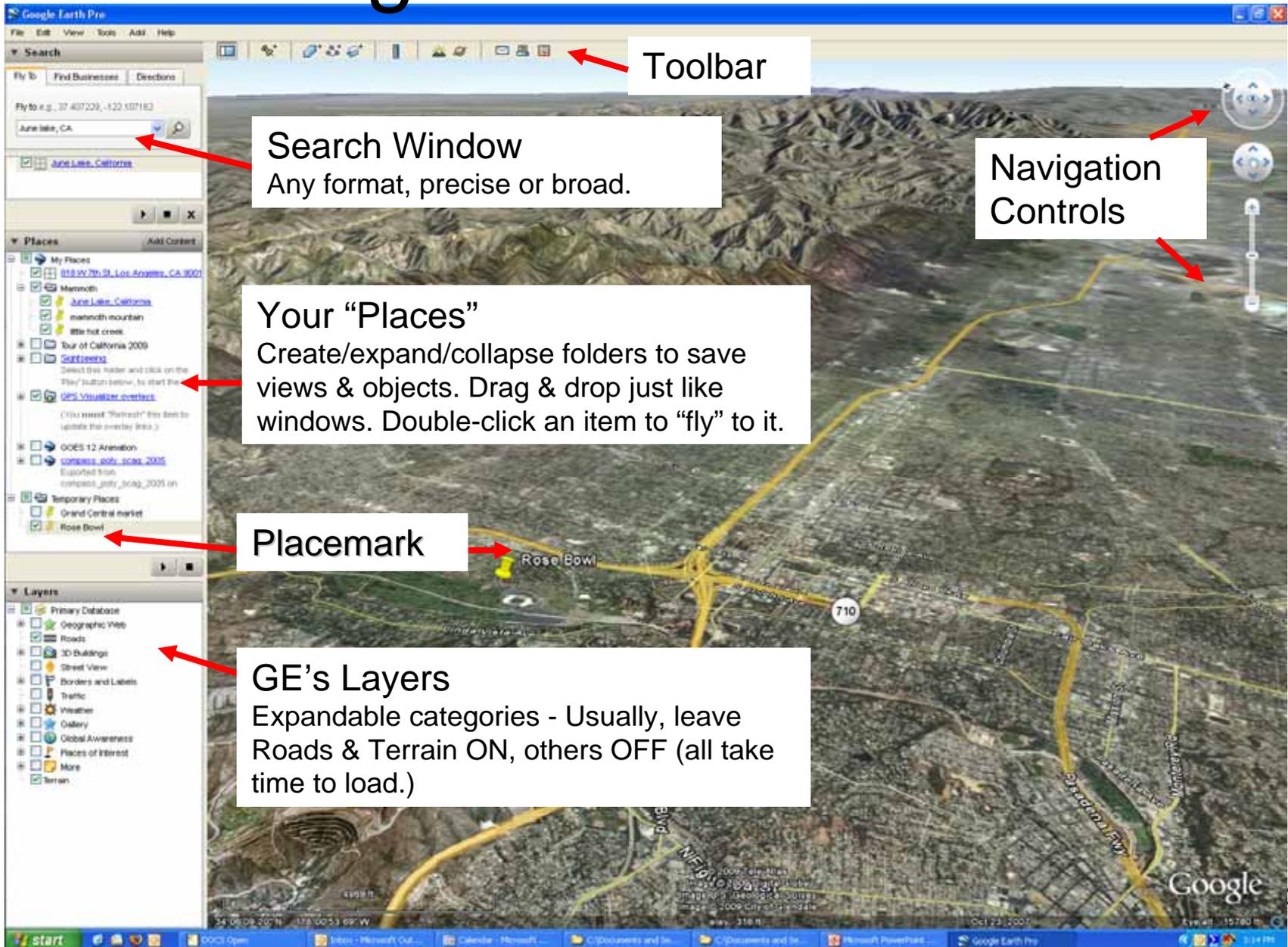


# Toolbox Tuesdays March 10, 2009

**Training Materials:**  
**Visualization: Introduction to  
Google Earth & SketchUp**

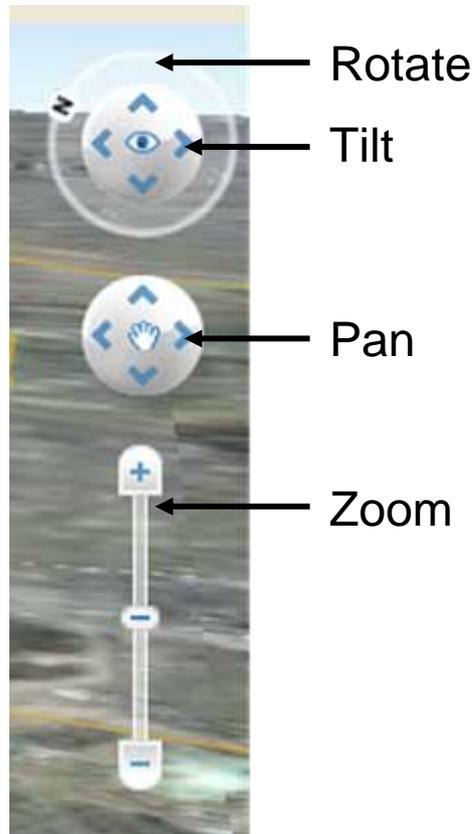


# Google Earth Interface



# Google Earth Navigation

On-screen controls



Or (even better)

Scroll-wheel Mouse controls



# Placemarks

1. Search "Rose Bowl" then clear results ("X")

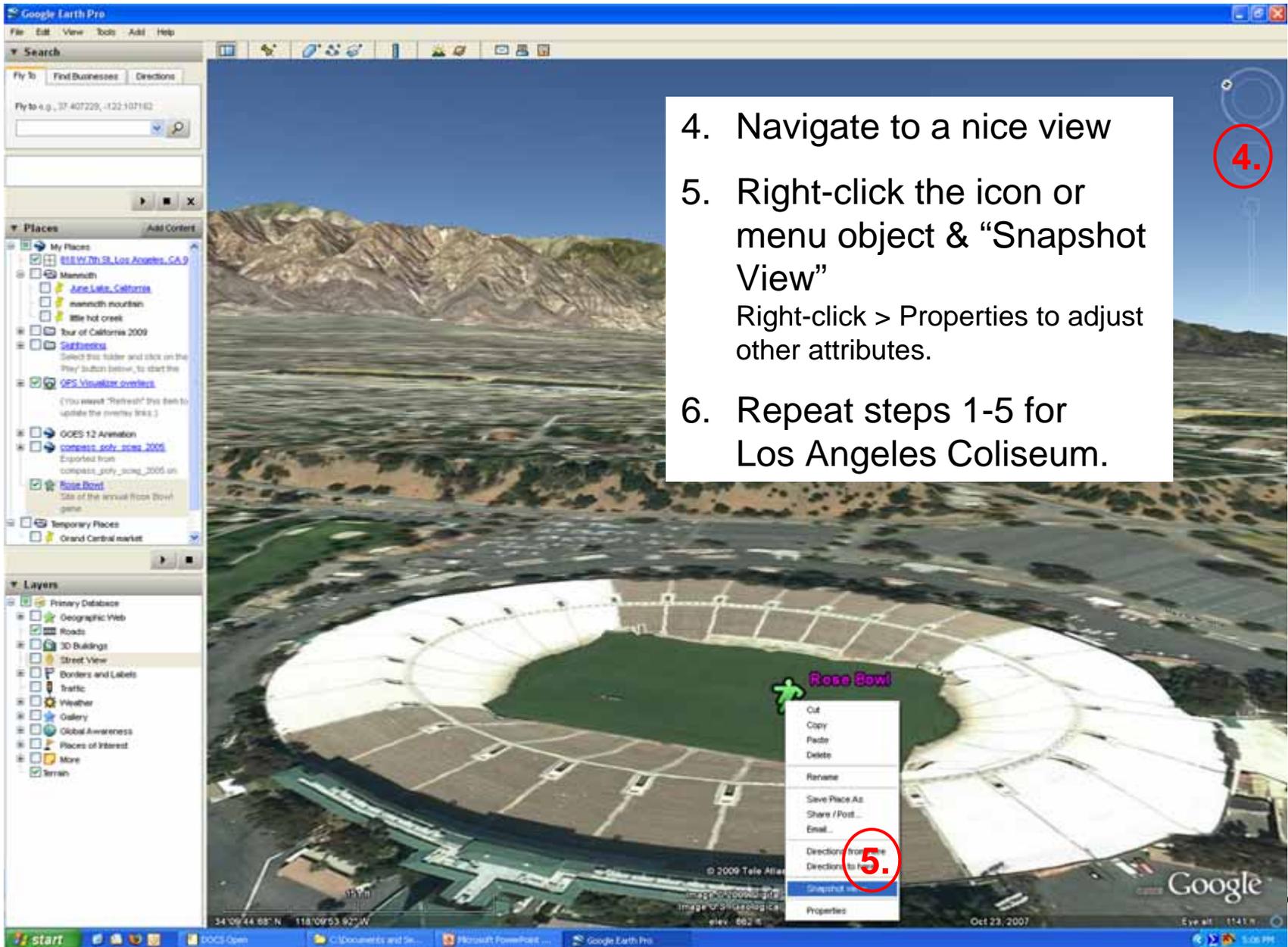
2. Highlight My Places

3. Add Placemark

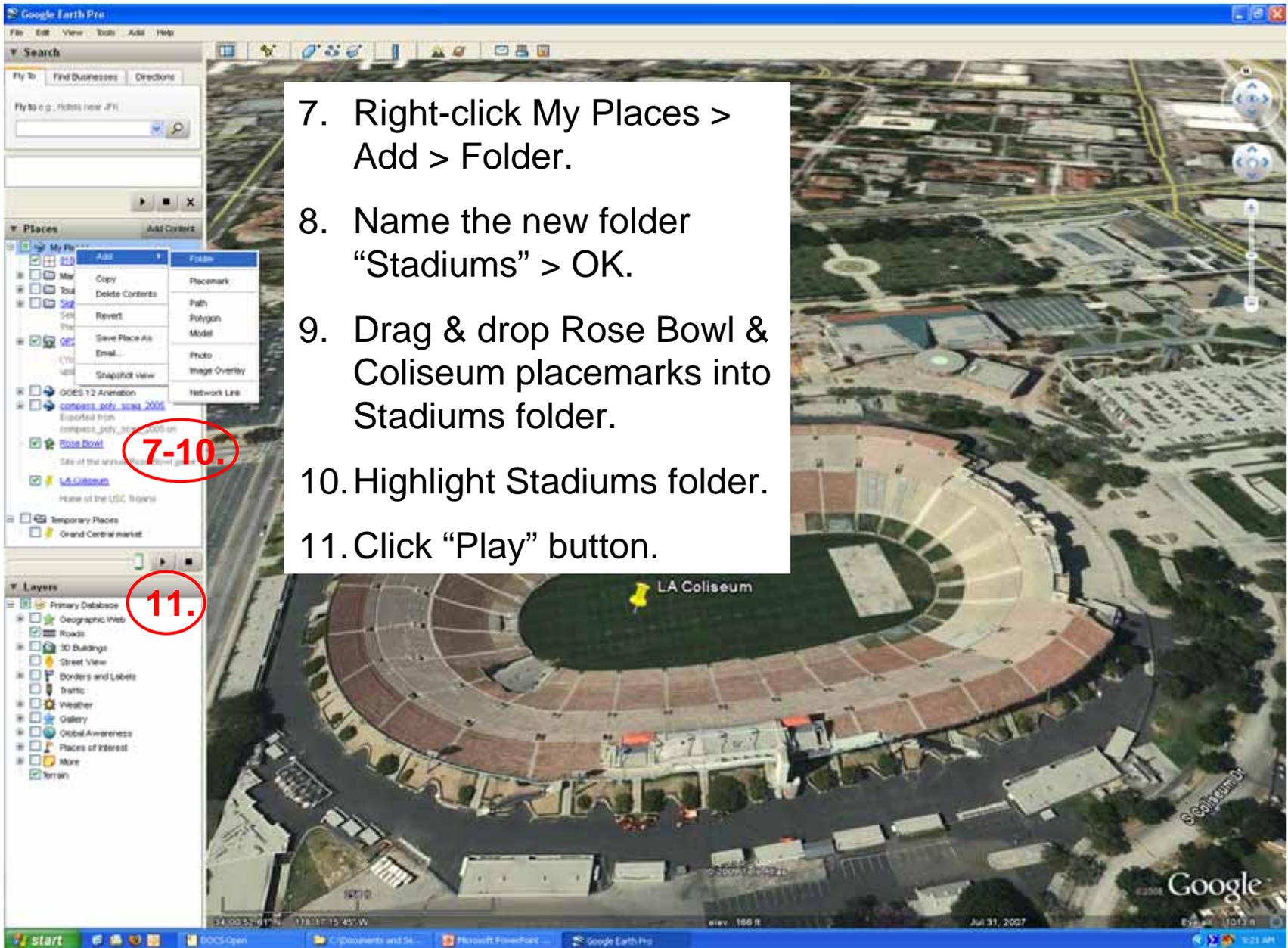
- move pin
- name it
- optional: add description, change label/icon
- click OK

# Placemarks

4. Navigate to a nice view
5. Right-click the icon or menu object & “Snapshot View”  
Right-click > Properties to adjust other attributes.
6. Repeat steps 1-5 for Los Angeles Coliseum.



# Placemarks



# Ruler Tool

2.

1.

3.

4.

4.

0.25 Miles

0.20 Square Miles

Clear

Mouse Navigation

1. Tilt & rotate to vertical, North-up view (keyboard shortcuts: “U,” “N.”)
2. Click Ruler tool icon.
3. Click 2 places on the map to measure straight-line distance.
4. Click “Clear” & Try “Path” tool tabs. (Polygon & Circle available in Pro version.)
5. Note scale bar, coordinates & elevation at bottom of screen.

start

DOCX Open

Documents and Settings

Microsoft PowerPoint

Google Earth Pro

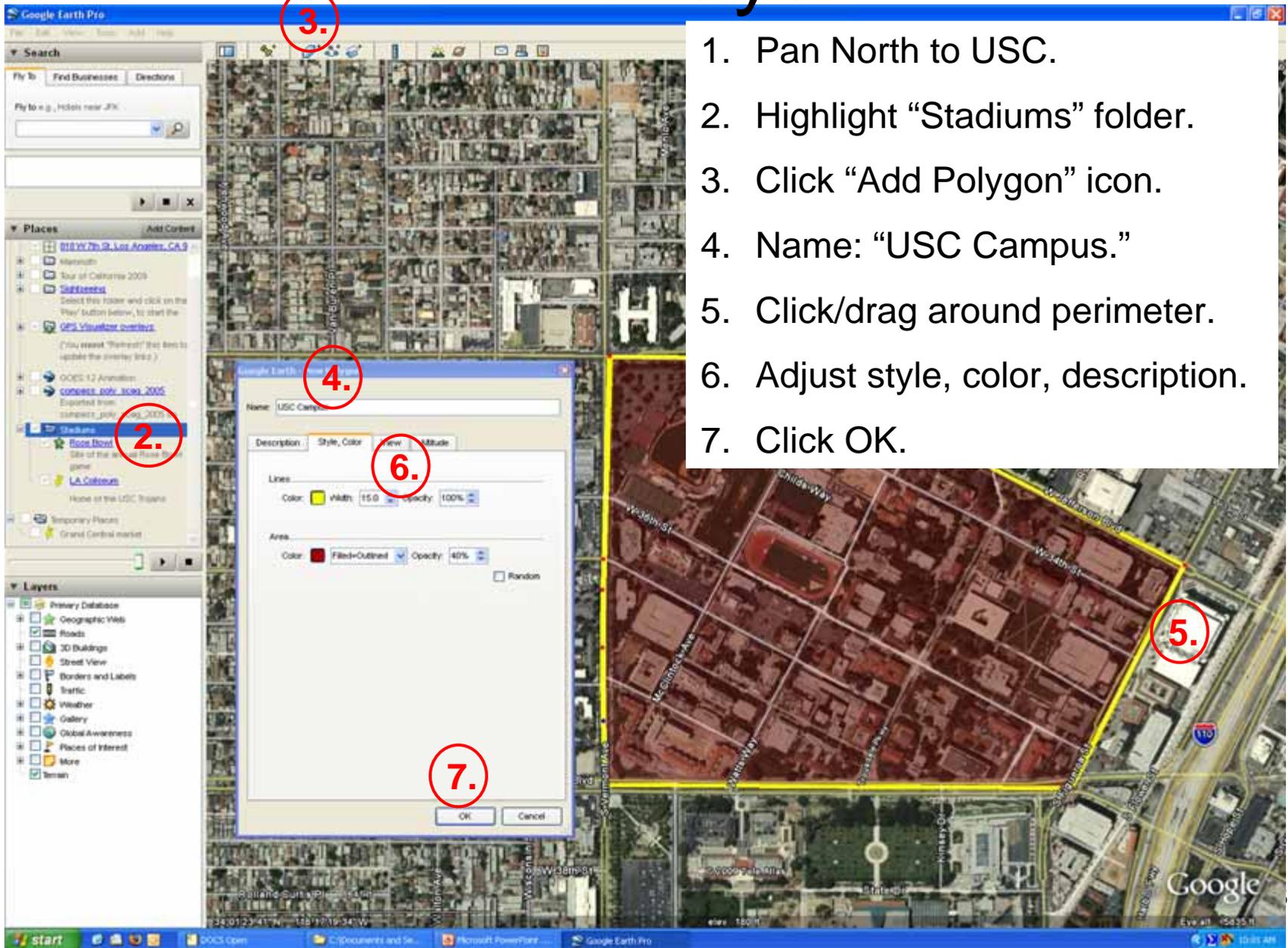
34.0724°N 118.0729°W

175 ft

Jul 31, 2007

Google

# Overlays



1. Pan North to USC.
2. Highlight "Stadiums" folder.
3. Click "Add Polygon" icon.
4. Name: "USC Campus."
5. Click/drag around perimeter.
6. Adjust style, color, description.
7. Click OK.

# Overlays

2.

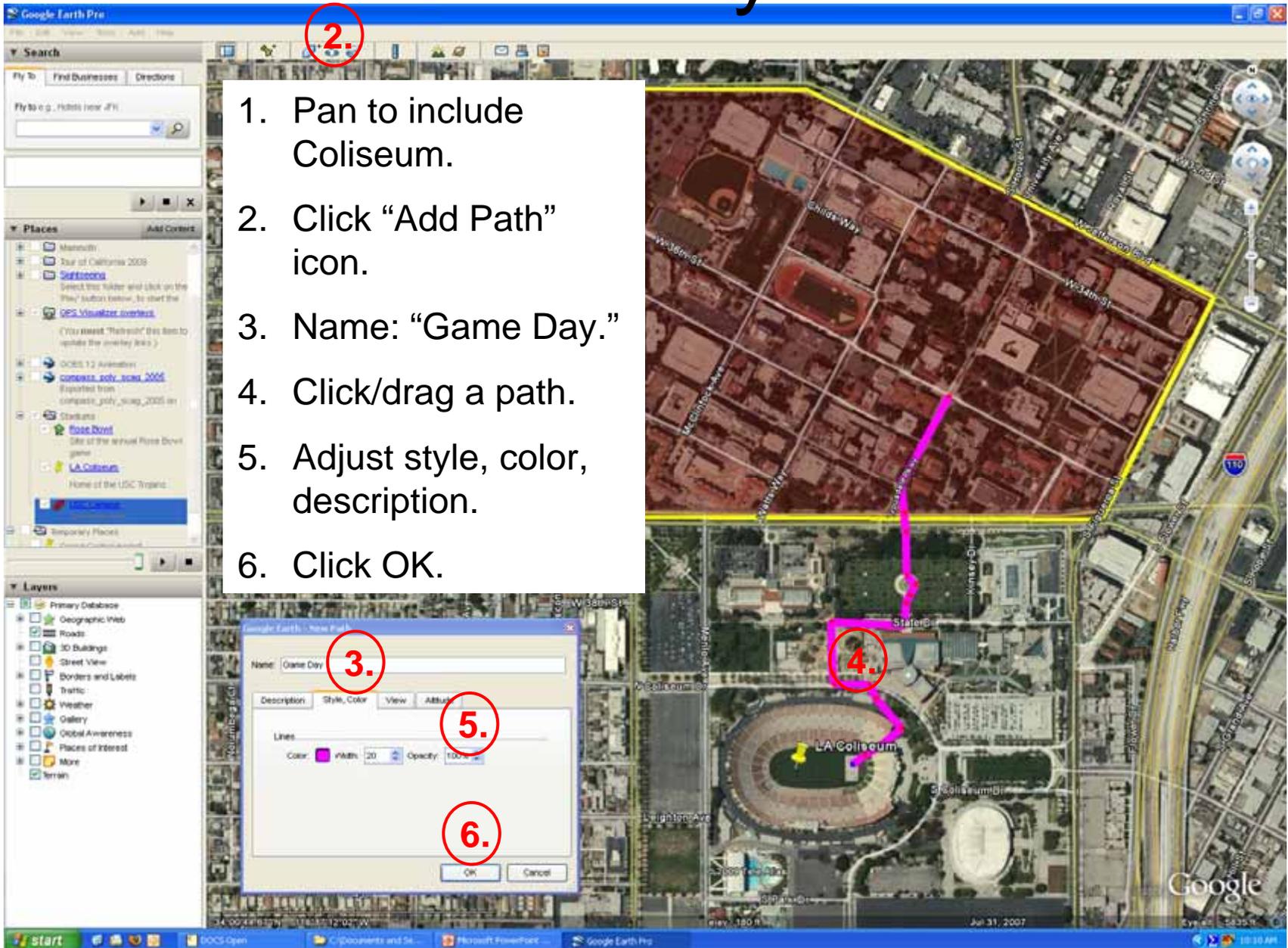
1. Pan to include Coliseum.
2. Click “Add Path” icon.
3. Name: “Game Day.”
4. Click/drag a path.
5. Adjust style, color, description.
6. Click OK.

3.

5.

6.

4.



# Overlays

2. Click "Add Image Overlay" icon.

Stretch image

Move image

Rotate image

3. Name: "SGV Gen Plan."

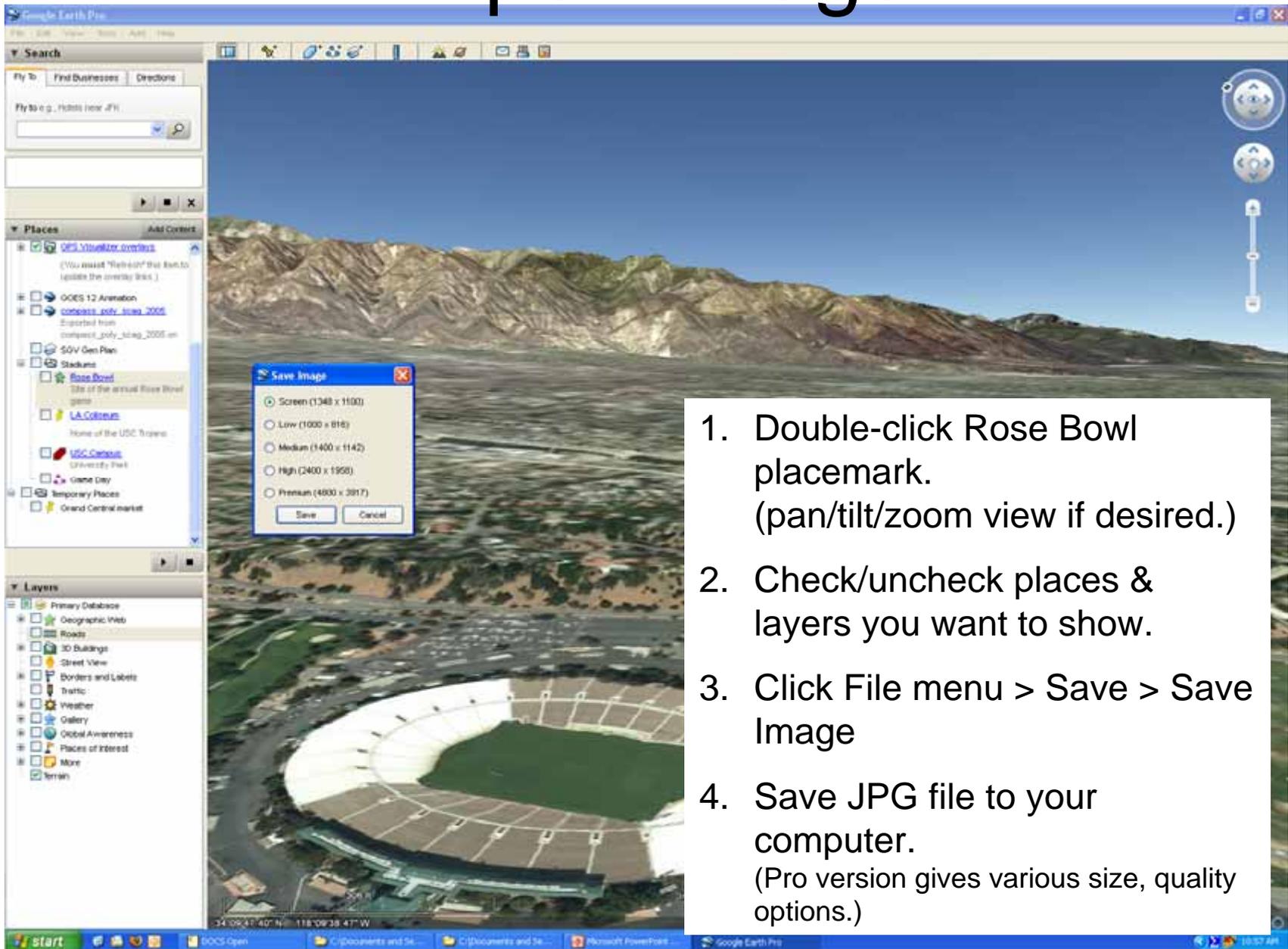
4. Click "Browse" & open "Desktop/TT 0309 files/sgvcog\_gp.jpg" file.

5-6. Use "Transparency" slider, green handles & pan/zoom to move & stretch the image to line up with the map. (Hint: Use freeways.)

7. Note "Altitude" adjustment & "Refresh" settings for web-served images.

7. Click OK.

# Export Image



The screenshot shows the Google Earth Pro interface with the 'Save Image' dialog box open. The dialog box is centered over an aerial view of the Rose Bowl stadium. The 'Save Image' dialog has the following options:

- Screen (1348 x 1100)
- Low (1000 x 818)
- Medium (1400 x 1142)
- High (2400 x 1958)
- Premium (4800 x 3817)

The 'Save' button is highlighted. The background shows the Rose Bowl stadium and surrounding landscape.

1. Double-click Rose Bowl placemark.  
(pan/tilt/zoom view if desired.)
2. Check/uncheck places & layers you want to show.
3. Click File menu > Save > Save Image
4. Save JPG file to your computer.  
(Pro version gives various size, quality options.)



# Share KMZ Files



The screenshot shows the Google Earth Pro interface. The main map area displays a satellite view with overlaid data layers in various colors (yellow, red, blue, green). The left sidebar contains several panels: 'Search', 'Places', 'Layers', and 'Layers'. The 'Places' panel is circled in red and contains a list of saved KMZ files, including 'OGES 12 Animation', 'compass\_2011\_2012.kmz', 'OGES 12 Animation', 'Stakeouts', 'Temporary Places', 'Grand Central market', 'Policy Alternatives', 'Workshop Comments', 'Features', 'Feature Labels (Comments)', 'Policy TAZ Forecast', and 'Feature Labels (PH\_PLAN)'. A tooltip is visible over the map, displaying text: '[25] new model colony. Too much HJ because of overflight from China - shift units to west and north (28, 29, 30). Jobs too high - shift 2,000 to 28, 29, 30.'

Email or post KMZs to the web. For example:

1. Open web browser, go to [www.compassblueprint.org/toolbox/trainings/online/ge\\_su\\_files](http://www.compassblueprint.org/toolbox/trainings/online/ge_su_files)
2. Right-click "Scenario B.kmz" & save to your computer. Make sure ".kmz" file extension is included when saving. Double-click saved file to Open in Google Earth. WAIT for large files to load in GE.
3. Download & open "2pct\_areas.kmz" and compare land use scenarios to Compass Blueprint opportunity areas. (Toggle them on & off or use transparency slider in GE Places window)
4. Download & open "Scenario B TAZ Forecast.kmz" and/or "Workshop Comments.kmz" to see more detail on scenarios.
5. KMZs will load in "Temporary Places." Moving large files up & saving to your Places will bog down Google Earth...

# Network Links

The screenshot shows the Google Earth Pro interface. The 'Add' menu is open, and 'Network Link' is selected. A dialog box titled 'Google Earth Pro - New Network Link' is displayed, with the following fields and options:

- Name: Scenario C
- Link: \\Settings\branches\csc\top\TT 0309 West\Scenario C.kmz
- Allow this folder to be expanded
- Show contents as options (radio button selection)
- Description: (empty text area)

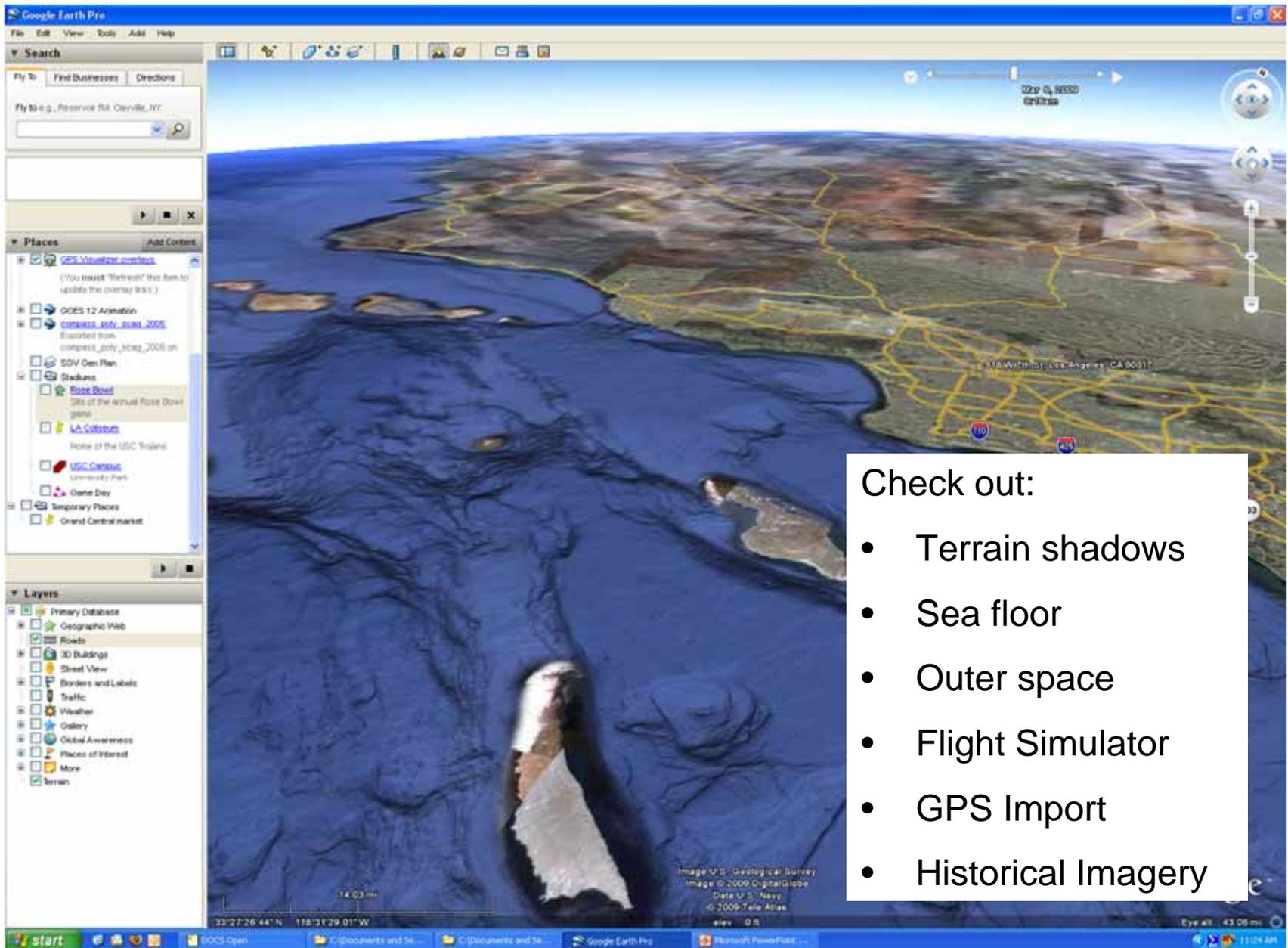
Red circles highlight the 'Add' button in the 'Places' panel, the 'Network Link' option in the 'Add' menu, the 'Name' field in the dialog box, and the 'Browse...' button in the dialog box.

Create “Network Links” for large and/or frequently updated files & data sets that you will want to view more than once:

1. Highlight My Places
2. “Add” menu > “Network Link”
3. Name: “Scenario C”
4. Click “Browse” & open “Scenario C.kmz” & Click OK (May need to fiddle with “Allow folder to be expanded” checkbox.)

Network links can also point to KMZ or KML files on the web (URLs) or other network locations.

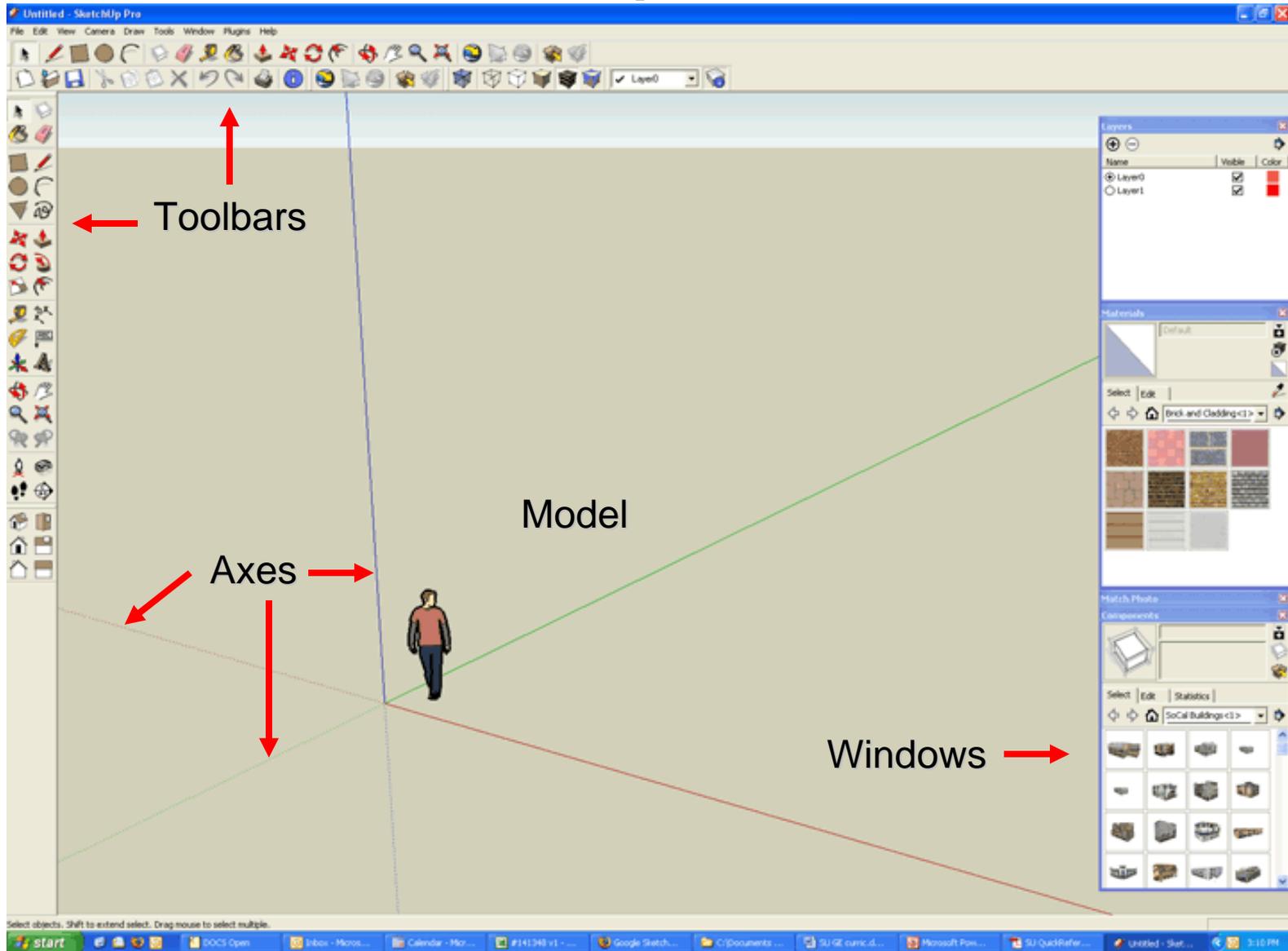
# More Features



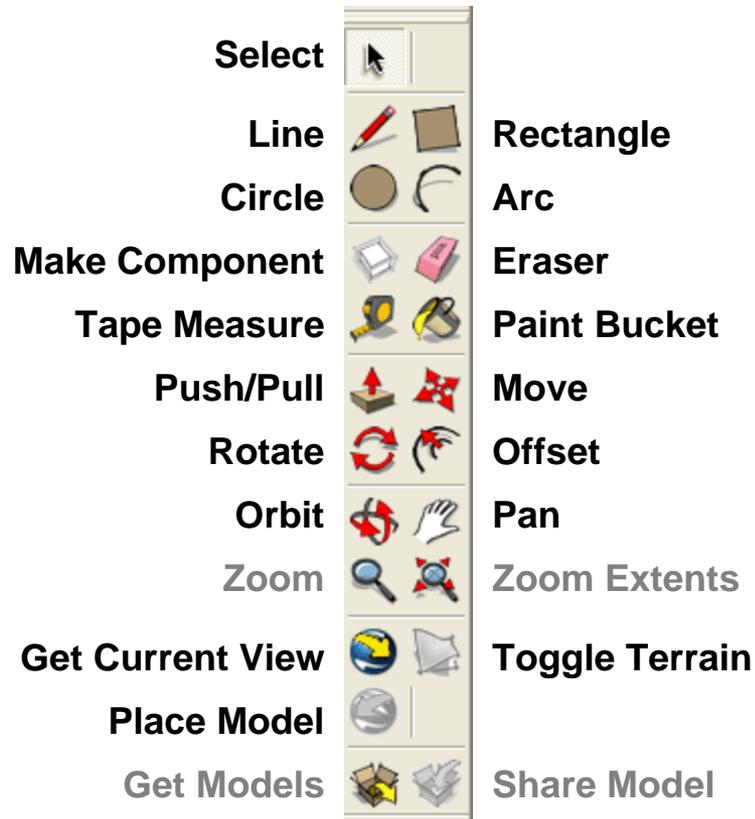
Check out:

- Terrain shadows
- Sea floor
- Outer space
- Flight Simulator
- GPS Import
- Historical Imagery

# SketchUp Interface



# “Getting Started” Toolbar

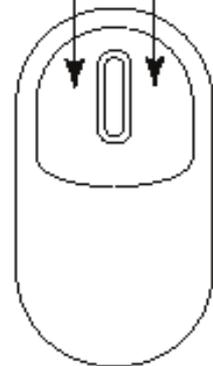


<b>Select Tool (Spacebar)</b> Ctrl - Add to selection set Shift - Toggle in/out of selection set Shift+Ctrl - Subtract from selection set Ctrl+A - Select all		<b>Paint Tool (B)</b> Ctrl - Adjacent fill Shift - Replace Shift+Ctrl - Adjacent replace Alt - Sample material	
<b>Eraser Tool (E)</b> Shift - Hide Ctrl - Soften/Smooth Shift+Ctrl - Unsoften/Unsmooth			
<b>Rectangle Tool (R)</b> VCB: Length, Width		<b>Line Tool (L)</b> Shift - Lock to current axis Arrow keys - Toggle axis lock VCB: Number - Length	
<b>Circle Tool (C)</b> Shift - Lock to current orientation VCB: Number+s - Segments VCB: Number - Radius		<b>Arc Tool (A)</b> VCB: Number - Bulge VCB: Number+s - Segments VCB: Number+r - Radius	
<b>Polygon Tool</b> Shift - Lock to current orientation VCB: Number+s - Segments VCB: Number - Radius		<b>Freehand Tool</b> Shift - Draw 3D Polyline	
<b>Move Tool (M)</b> Shift - Lock to current axis Arrow keys - Toggle axis lock Ctrl - Toggle copy Alt - Toggle auto-fold VCB: Number - Distance		<b>Push/Pull Tool (P)</b> Ctrl - Toggle new starting face Double-Click - Repeat VCB: Number - Distance	
<b>Rotate Tool (Q)</b> Ctrl - Toggle copy VCB: Number - Angle VCB: Rise:Run - Slope		<b>Follow Me Tool</b> Alt - Use parameter of surface as path	
<b>Scale Tool (S)</b> Shift - Scale uniformly Ctrl - Scale about center VCB: Number - Scale factor VCB: Number w/ units - Length		<b>Offset Tool (F)</b> Double-Click: Repeat VCB: Number - Length	
<b>Tape Measure Tool (T)</b> Ctrl - Toggle create construction geom Arrow keys - Toggle axis lock VCB: Number - Resize model		<b>Dimension Tool</b>	
<b>Protractor Tool</b> Ctrl - Toggle create construction lines		<b>Text Tool</b>	
<b>Axes Tool</b>		<b>Section Tool</b>	
<b>Orbit Tool (O)</b> Shift - Pan Ctrl - Free		<b>Pan Tool (H)</b>	
<b>Zoom Tool (Z)</b> Shift - Change field of view		<b>Zoom Window Tool</b>	
<b>Zoom Extents Tool (Shift+Z)</b>		<b>Previous</b>	
<b>Position Camera Tool</b>		<b>Walk Tool</b> Shift - Move vertically Ctrl - Run Alt - Walk through entities VCB: Number - Eye height	
<b>Look Around Tool</b> VCB: Number - Eye height			

**Middle Button (Wheel):**  
 Click-Click - Orbit  
 Shift-Click-Drag - Pan  
 Double-Click - Re-Center View  
 Scroll - Zoom

**Left Button:**  
 Click = Tool Operation

**Right Button:**  
 Click = Context Menu



**New (Ctrl+N)**

**Open (Ctrl+O)**

**Save (Ctrl+S)**

**Make Component**

**Cut (Ctrl+X)**

**Copy (Ctrl+C)**

**Paste (Ctrl+V)**

**Erase (Delete)**

**Undo (Alt+Backspace)**

**Redo (Ctrl+Y)**

**Print (Ctrl+P)**

**Model Info**

**Get Current View**

**Toggle Terrain**

**Place Model**

**Get Models**

**Share Model**

**Wireframe**

**Hidden Line**

**Shaded**

**Shaded With Textures**

**X-Ray**

**Iso**

**Top**

**Front**

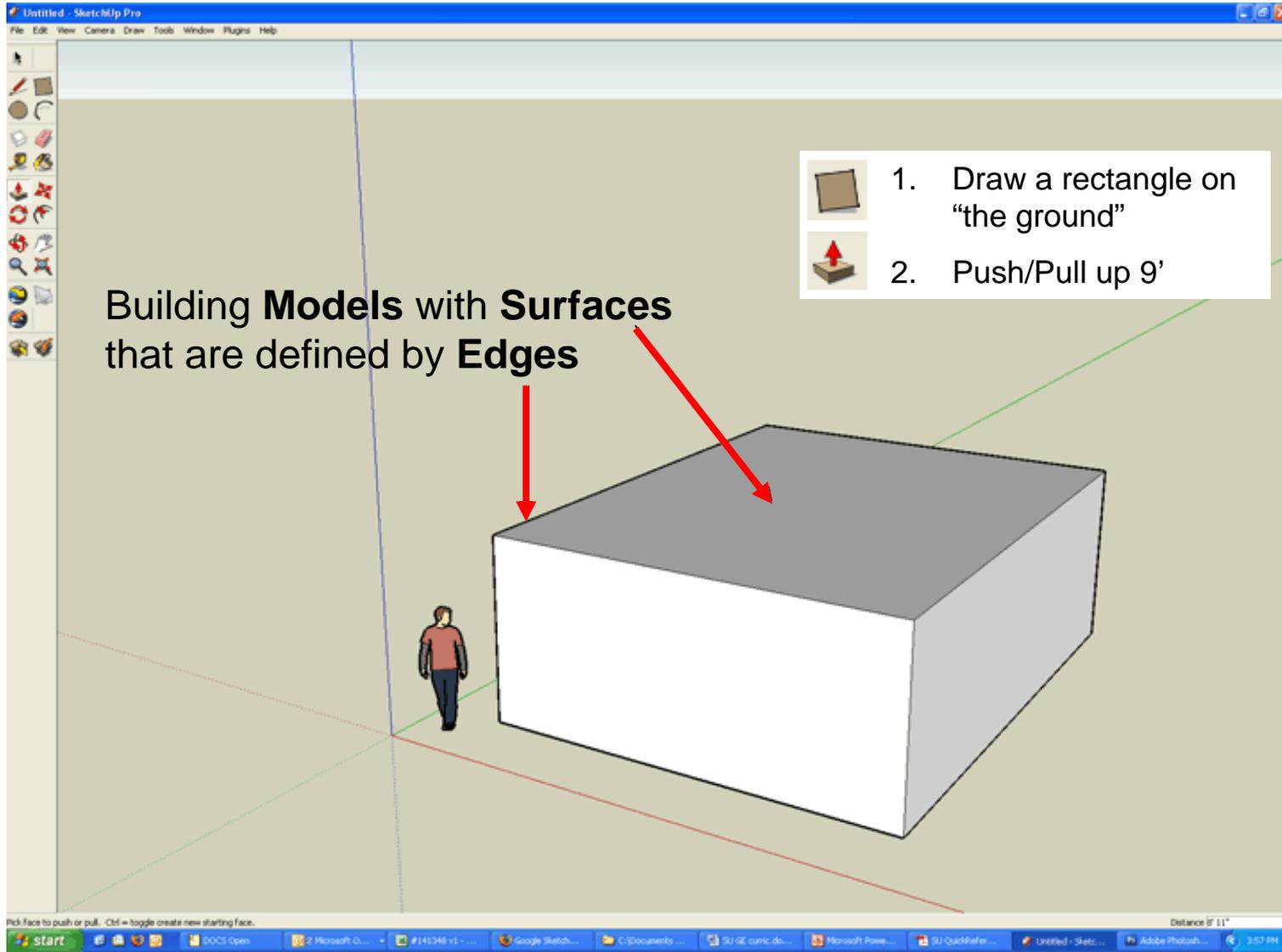
**Right**

**Back**

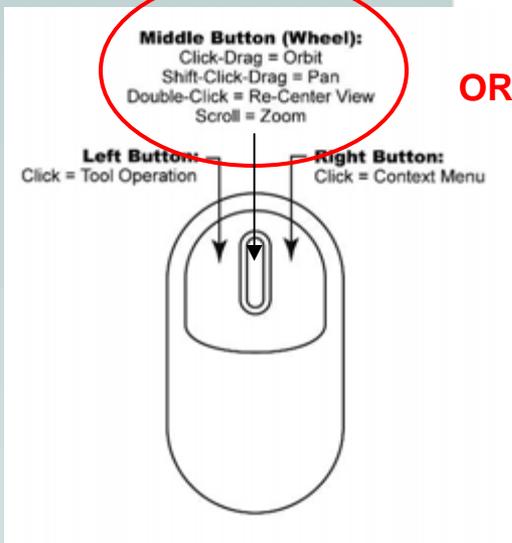
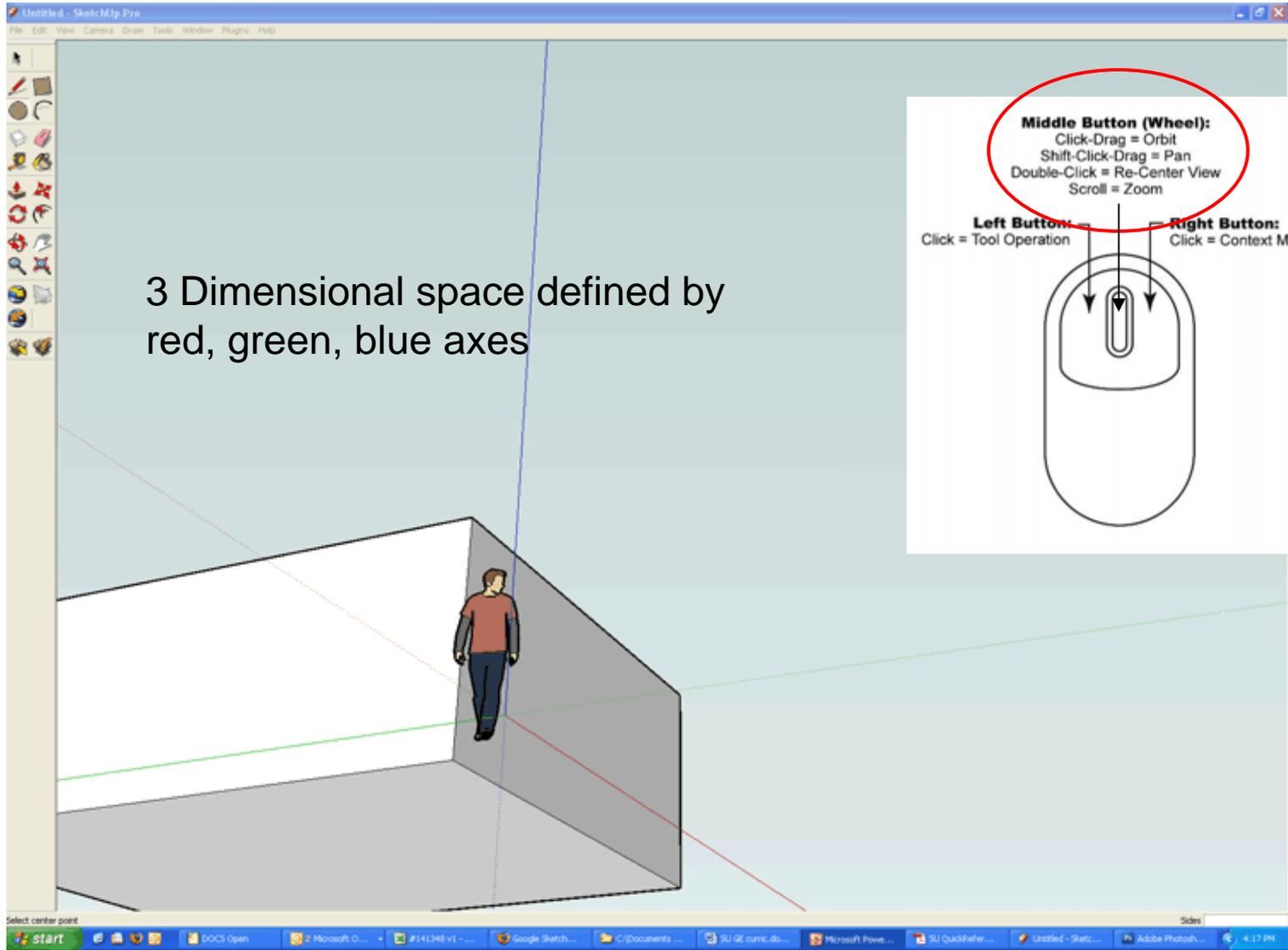
**Left**

# SketchUp Quick Reference Card

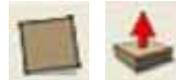
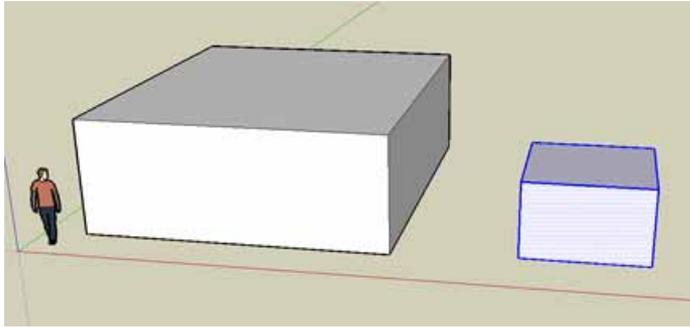
# Drawing



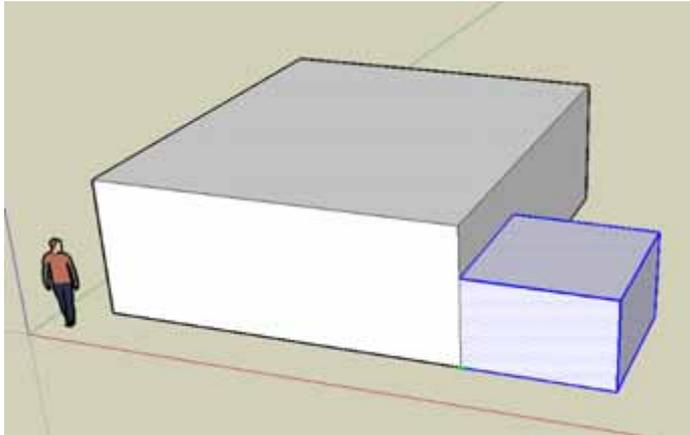
# Navigation



# Geometry: Edges & Surfaces



1. Draw another cube



2. Select the new cube

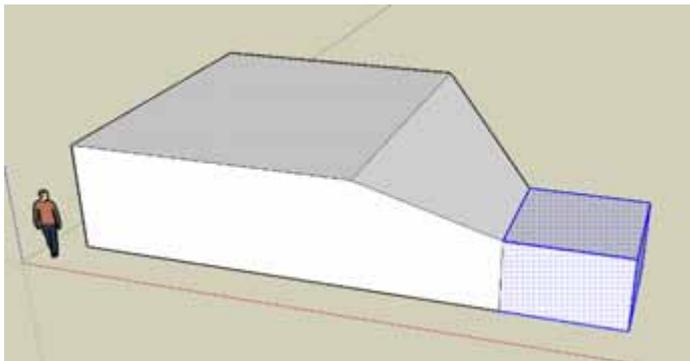
Left-right bounding selects everything *entirely contained* in box

Right-left bounding selects everything *inside and touching* the box



3. Move new cube over to join first cube

“Grab” it by lower left corner (green dot) and join to lower right corner of first cube



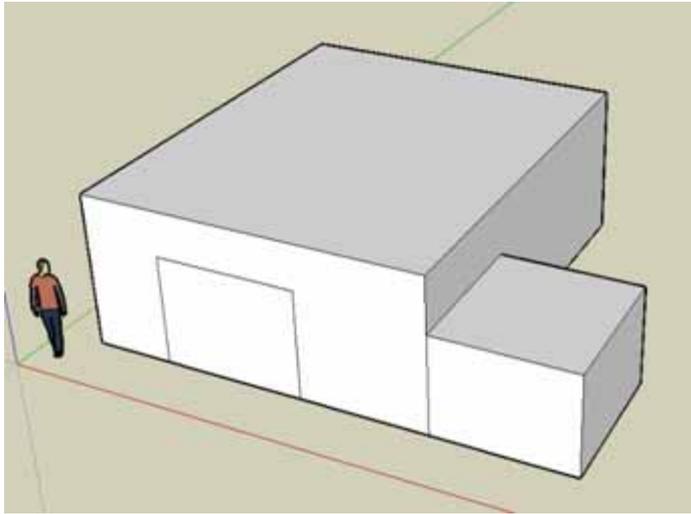
4. Try moving the cubes apart

They're stuck together – *sharing edges and surfaces*

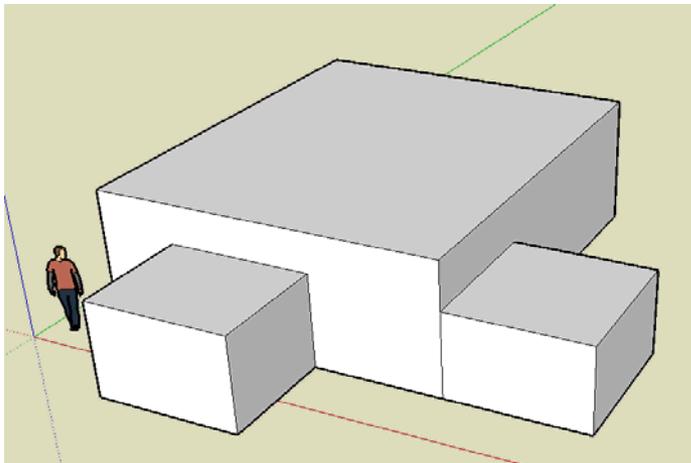
5. Edit > Undo to return to two cubes

Or View > Toolbars > Standard

# Geometry: Edges & Surfaces

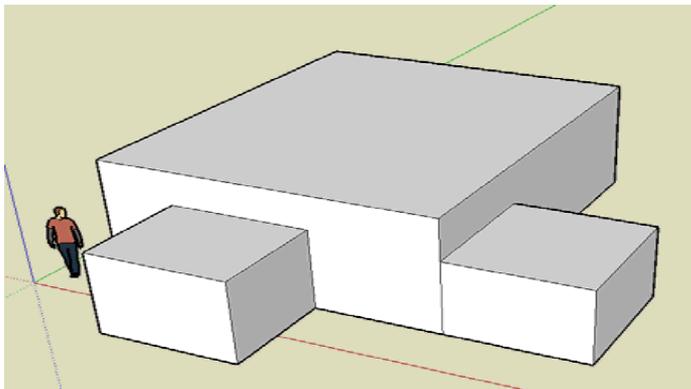
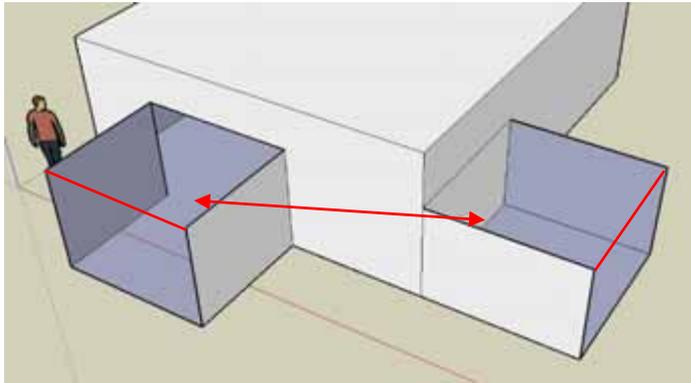


1. Draw a Rectangle on the wall, starting from the bottom edge.



2. Push/Pull out to make a third cube.

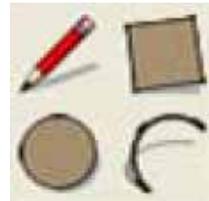
# Geometry: Edges & Surfaces



1. Erase 2 edges.  
Place Eraser tool “cursor” over edge and click once.
2. Note how adjoining surfaces also disappear.  
Surfaces are created within any closed loop of edges on the same plane.  
Also note how second cube (moved over) created different edges than third cube (pulled out from first cube)



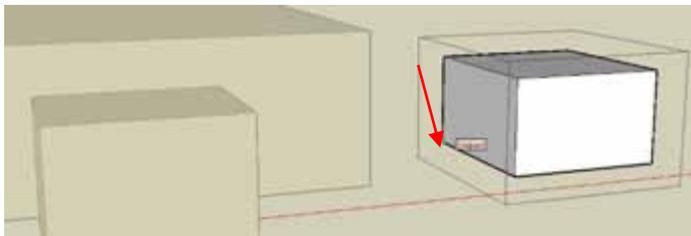
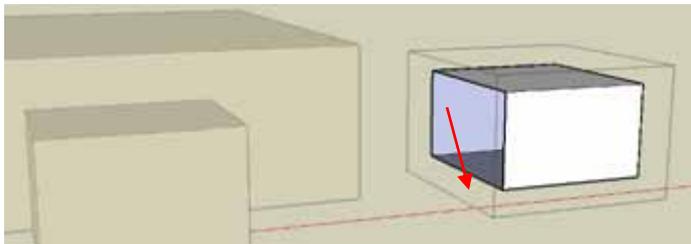
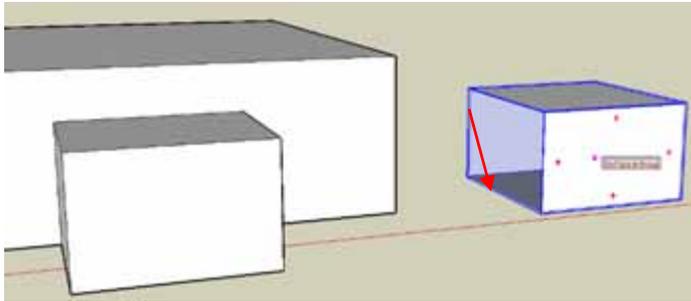
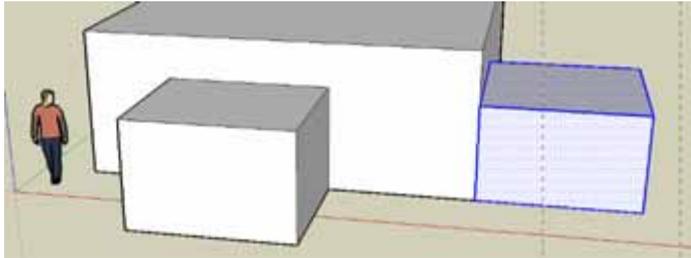
3. “Heal” edges & recreate surfaces with Pencil tool.  
Click once on line starting point, again at end point.



Experiment with the other drawing tools.

Circle and Arc behave similarly to the Pencil and Rectangle tools.

# Groups



To “unstick” geometry use combinations of pencil, eraser & undo tools & “Save As” often. Or...

Isolate geometry by creating a Group:



1. Carefully select all edges and surfaces.

Right-left bounding box

2. Right-click > Make Group



3. Use Move tool – it’s unstuck, but note the missing face.

4. Right-click > Edit Group

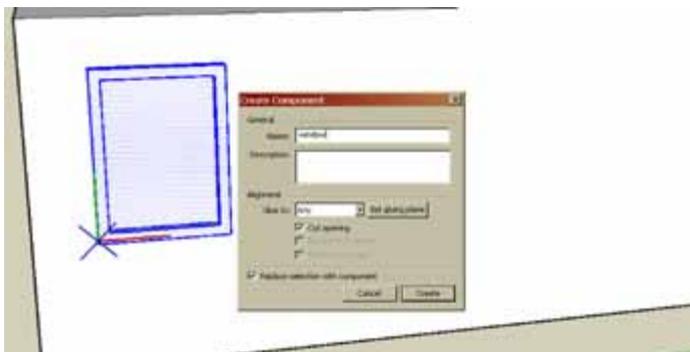
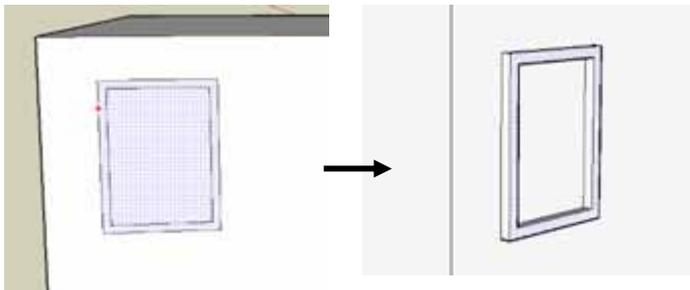
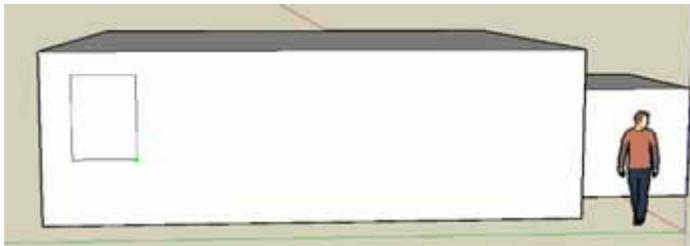
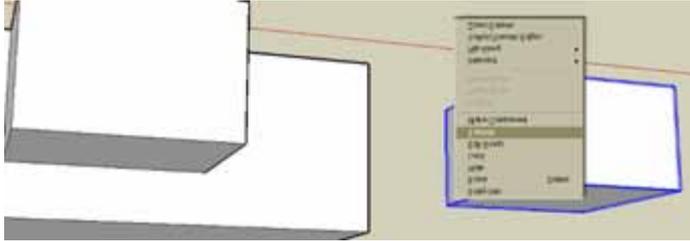


5. Use Pencil to trace full length of any of the edges bounding the missing face.

6. Right-click > Close Group

or click outside the group with Select tool to close.

# Groups vs. Components



1. To “ungroup” geometry select group, Right Click > Explode.



2. Orbit to a clean wall and draw a “window.”



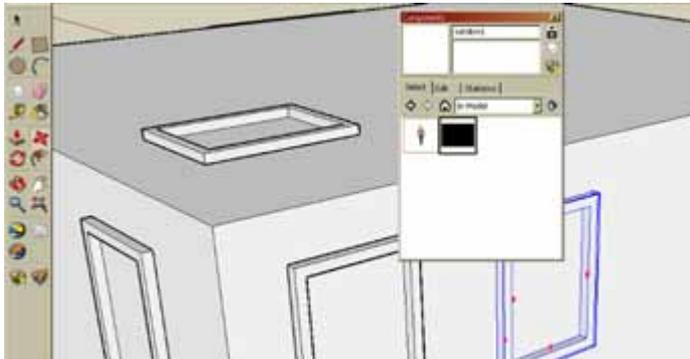
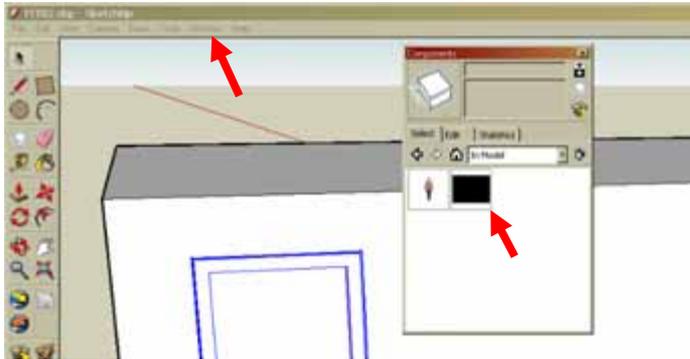
3. Use Offset tool add detail.  
Click once inside rectangle, move mouse to desired offset, click again.



4. Use Push/Pull to add more detail.

5. Select all window geometry, right-click > Make Component. Name it “window1.” Set “Glue to” = “Any.”

# Components

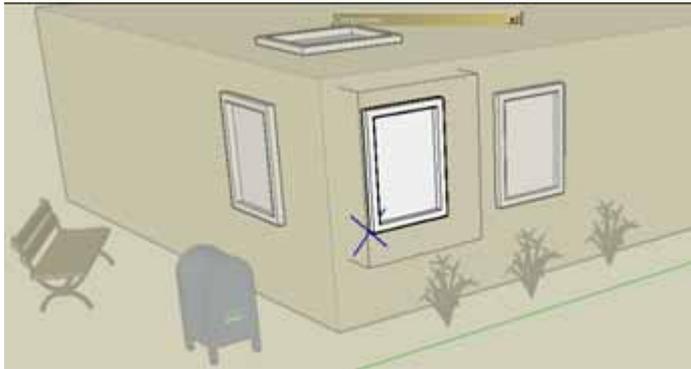


1. Window menu > Components, choose “In Model” from the drop-down list.
2. Drag “window1” into your model, glue it to a surface. Drag more windows to other surfaces – Note how it “glues” to “any plane.”

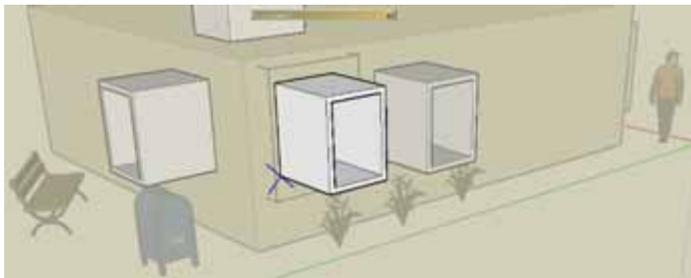
Rule of thumb: Make components for objects you want to replicate. Make a group for a unique object you want to isolate.

3. In the Components window, select “Components” from the drop-down list. Browse the folders for pre-fab components you can use.

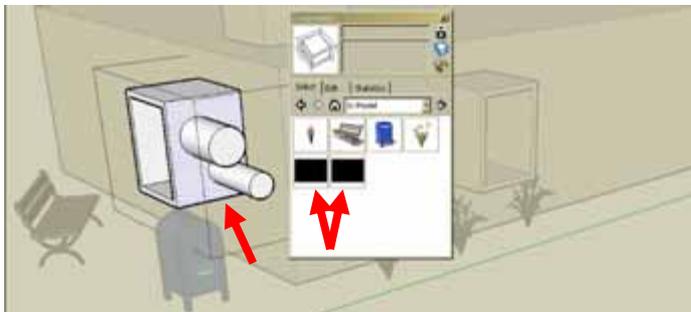
# Components



1. To edit geometry within a component, double click it with the select tool.
2. Note that any changes are applied to all instances of the component in your model.



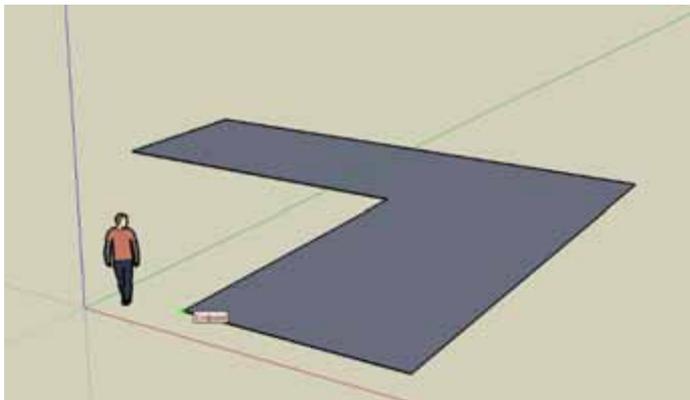
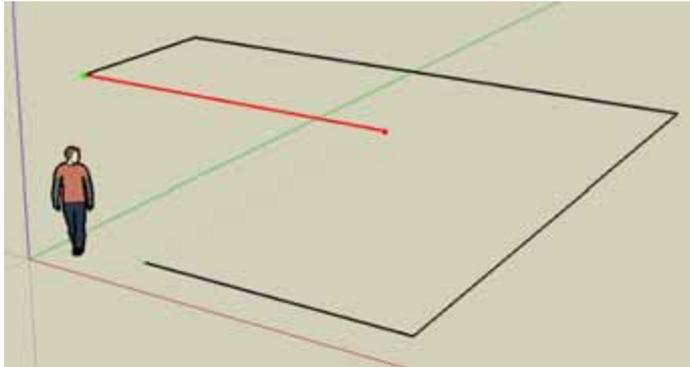
To stop editing, click outside the component with the select tool.



3. To edit a single instance of a component, select it, Right-click > “Make Unique.” Note it’s now a separate component.

You can also “nest” components inside components.

# Drawing: Inferencing

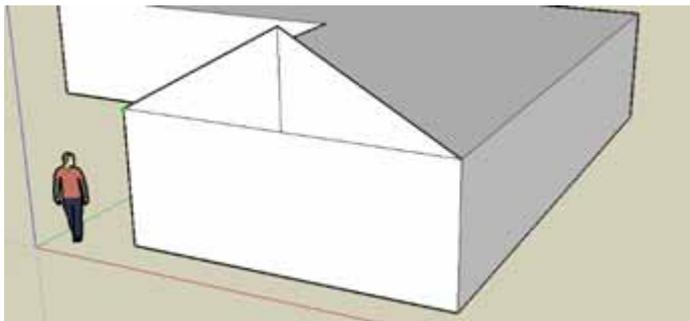
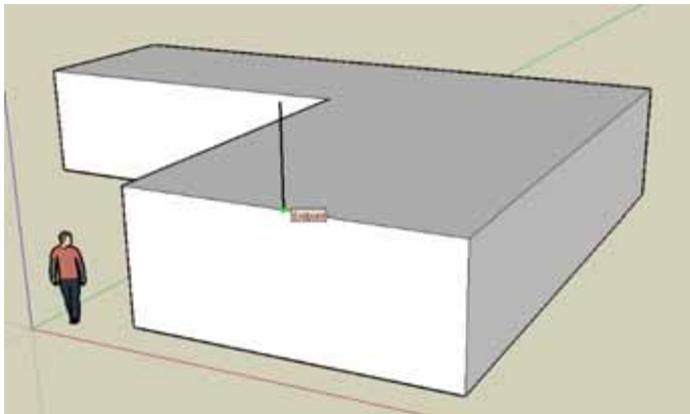
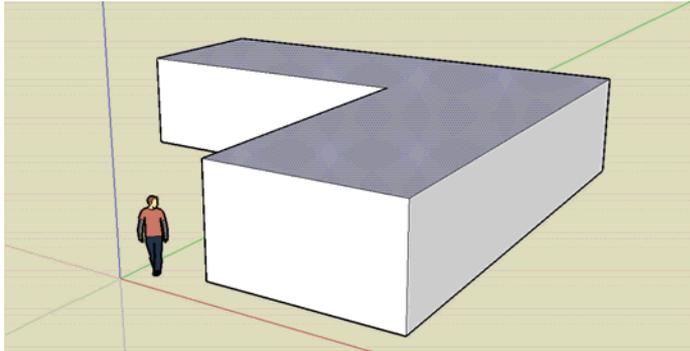


Start a new project (File > New)



1. Use the Pencil tool to draw an L-shaped floor plan.
- Note your line turns red or green when you are drawing parallel to these axes, even when lines do not appear parallel on screen.
  - Note dotted inference guides appear when your line is square to an end point.
  - Hold the Shift key to “inference lock” (works with all tools).

# Drawing: Inferencing



1. Push/Pull up.



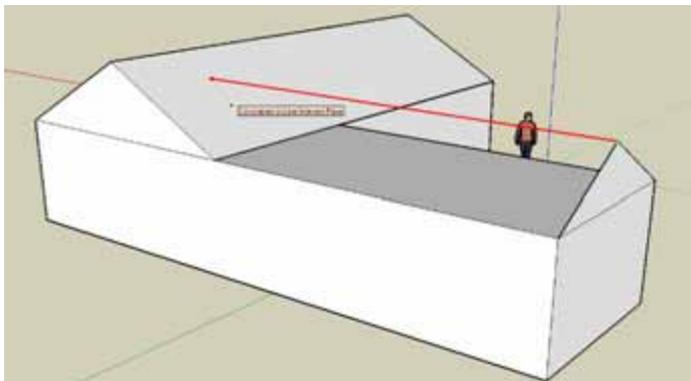
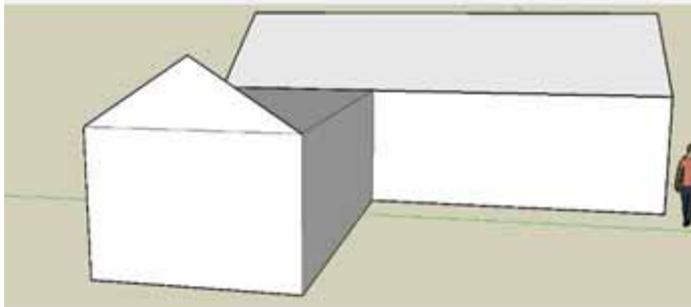
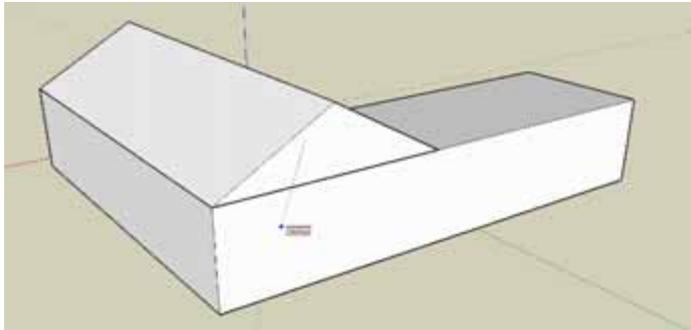
2. Find the Midpoint (cyan dot appears) of the top front edge & draw a vertical (blue axis inference) line 6' long.



3. Draw rooflines, connecting vertical line endpoint (green dot appears) to corner endpoints (green dot appears), then erase vertical line.



# Drawing: Inferencing



1. Orbit and Push/Pull roof section across, infer to opposite wall (blue dot appears – “on face”).

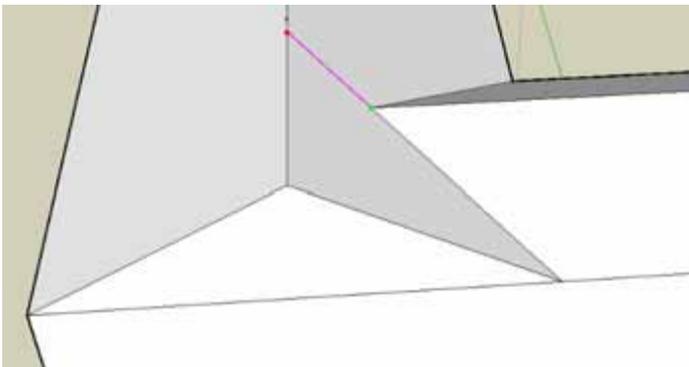
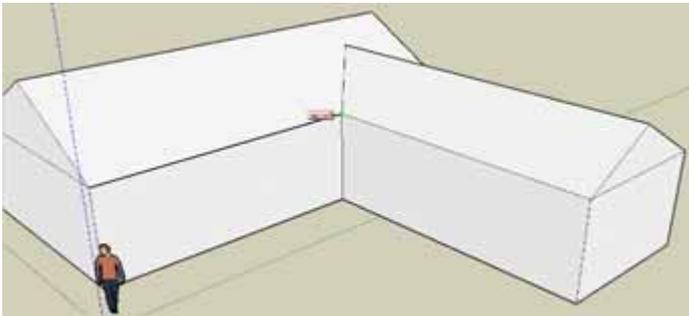
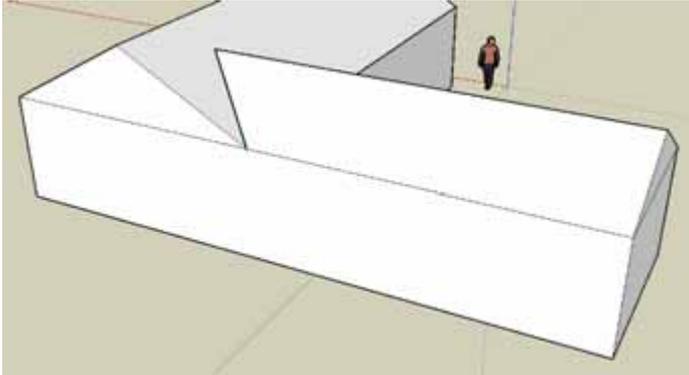


2. Orbit, find the Midpoint (cyan dot appears) of the 2<sup>nd</sup> top front edge & draw a vertical (blue axis inference) line 4' long. Connect corners and erase vertical line.



3. Draw a line from 4' peak (green dot), inference lock (shift key) to red axis, to opposite roof face (“Constrained on Line Intersect Plane.”)

# Drawing: Inferencing



1. Connect lower ridge end point to eave to create lower roof face.

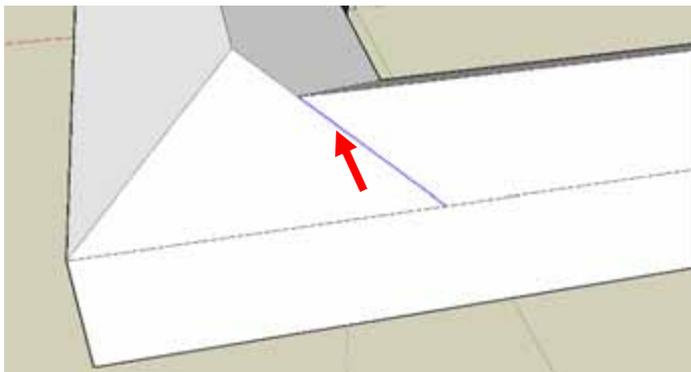
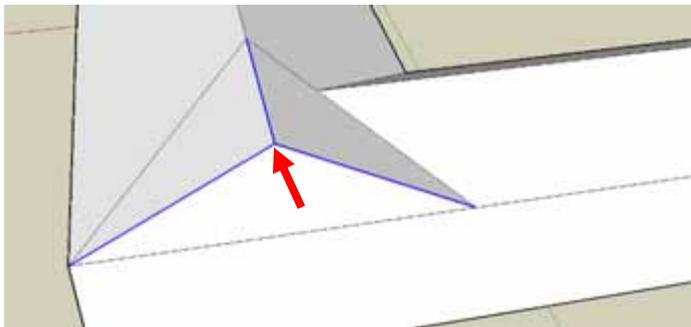
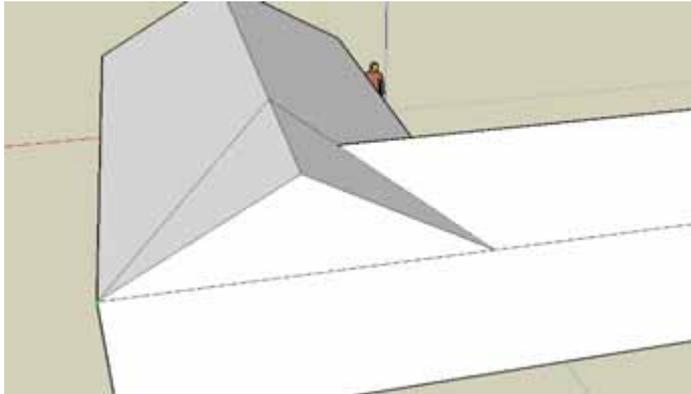


2. Repeat on the other side.



3. Extend valley line from lower ridge endpoint (green dot) to upper ridge (red dot indicates on the line, but not mid- or endpoint). Lock to purple direction line (indicates parallel to another line in the model, but not one of the 3 axes.)

# Drawing: Inferencing



1. Connect upper ridge to corner.

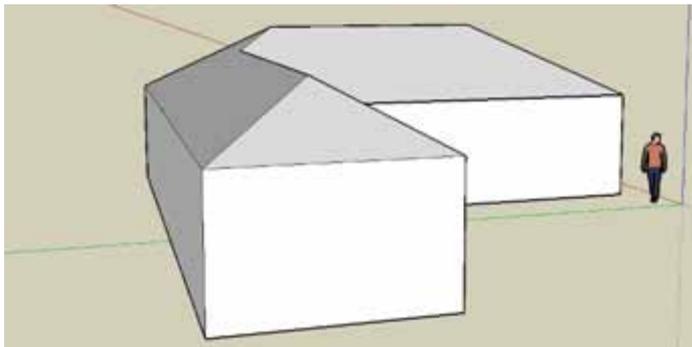
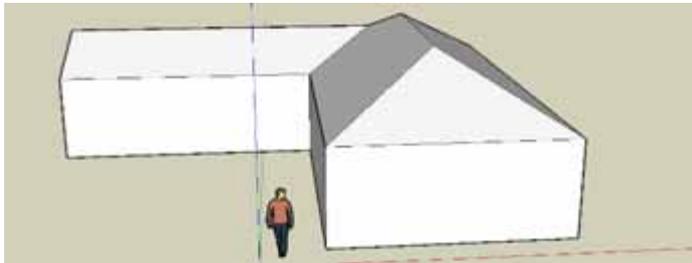
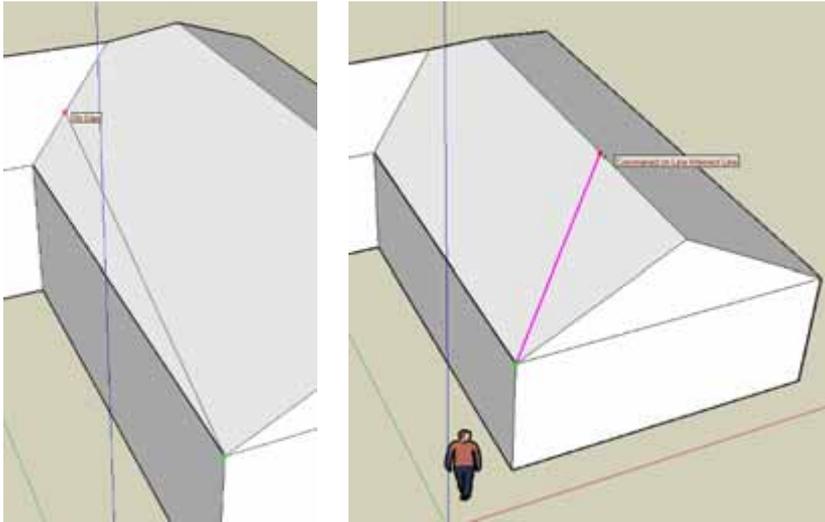


2. Erase 3 line sections with one click on common endpoint.



3. Erase another unnecessary line.

# Drawing: Inferencing



1. With Pencil Tool, click once on the corner above “Bryce’s” head, then hover cursor (but don’t click) on the valley line.

This tells SketchUp you want to infer a line parallel to the valley line.



2. Find the purple inference guide and draw a line to the upper ridge.

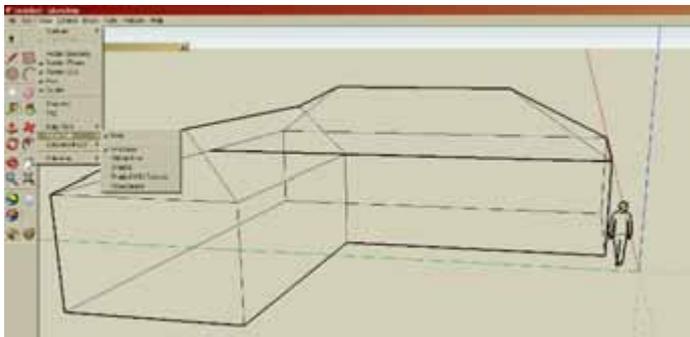
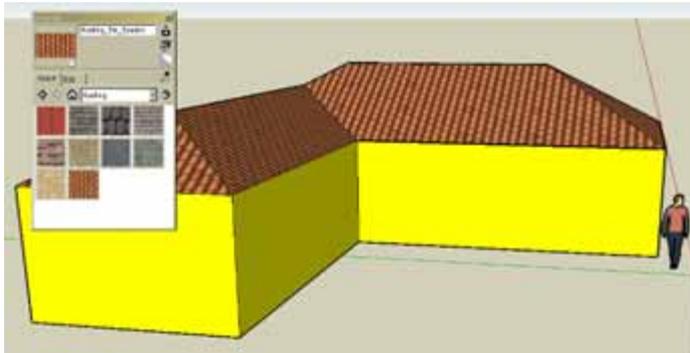
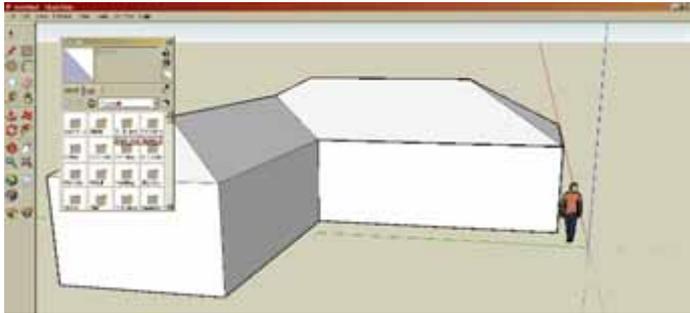


3. Connect the upper ridge back down to the opposite corner and erase 3 lines as earlier.



4. Repeat steps 1-3 on the other end of the “L.”

# Materials: Colors & Textures



1. Click the Paint Bucket tool and the “Materials” window appears. Choose simple “Colors” from the drop down list or pick from any of the “Textures” options.

Using lots of complex textures will take up a lot of disk space and may slow down your computer.



2. Pick from the palette and click the Paint Bucket tool on surfaces to add detail.
3. Click the View menu > Face Style > Wireframe to see only your model’s edges. Try the other View options as well. Note that faces, edges, etc. behave exactly the same “inside” the model as on the exterior.

# Import SketchUp Model to Google Earth

1. Open Google Earth & fly to your location. "Broadway & 7th St. El Centro, CA"

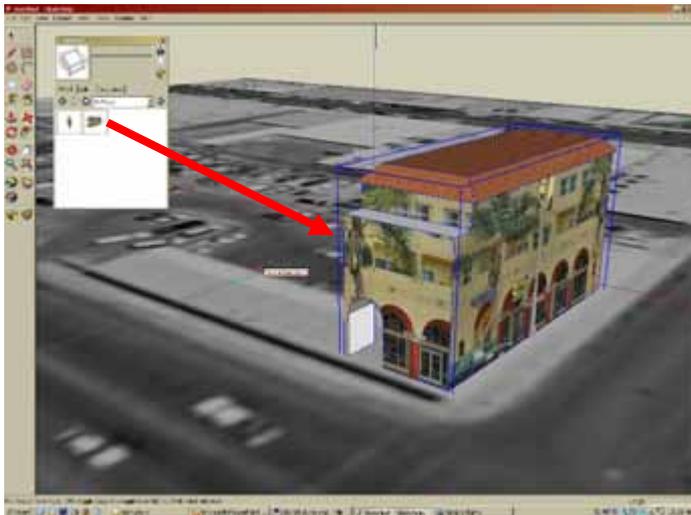
2. Keep North arrow pointing up & perspective looking straight down.

3. Zoom in/out and center the view to match what you want to model on in SketchUp

4. Make sure all Search, Places & Layer features are turned off/unchecked

The screenshot shows the Google Earth interface with the following elements visible: Search bar with 'Broadway & 7th St. El Centro, CA' entered; Places list with 'My Places' and 'Temporary Places' sections; Layers list with 'Core' selected and various features like 'Terrain', 'Geographic Web', 'roads', 'Traffic', '3D Buildings', 'Borders and Labels', 'Gallery', 'Global Awareness', and 'Places of Interest' listed; a North arrow in the top right corner; and a taskbar at the bottom with several open applications including 'SU tutorial', 'Microsoft PowerPoint', 'SU-GE curic.doc - Mic...', 'Untitled - SketchUp', and 'Google Earth'.

# Integrate with Google Earth



5. Minimize (don't close) Google Earth.
6. Start a new project in SketchUp.
7. Click "Get Current View."  
Save your project. You may close Google Earth now, especially if your computer is bogging down.
8. Orbit to a good working view of your project/model site.
9. Open the Components window,
10. Find the MU3 01 file on your desktop & drag it into Components window.
11. Drag the MU3 01 building from Components window onto the corner of Broadway & 7<sup>th</sup>. Click once to place it, or, Start building new model using the air photo as a base.



# Integrate with Google Earth

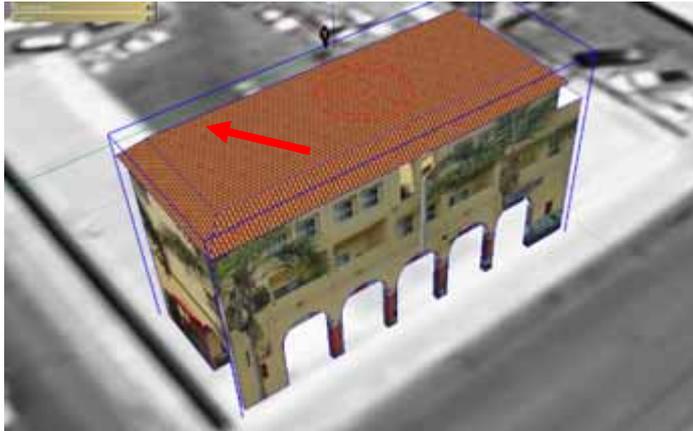


1. Open the “Layers” window (Windows menu > Layers)
2. Uncheck the “Visible” box next to “Google Earth Terrain” to toggle the aerial image on and off for a less cluttered view of the model.  
By default, Sketchup puts your model geometry on “Layer 0,” designated “active” by the radio button on the left. You can create multiple layers, put different geometry on each and hide/show the layers to make sense of complicated models.
3. Turn the Google Earth Terrain layer back on and click the Toggle Terrain tool button.



This toggles the aerial image between a 2-dimensional flat surface and actual relief changes from Google Earth. El Centro is flat already so you don't notice a difference. In some cases, you will need to Toggle Terrain and adjust the height of your model using the Move tool to keep the model from floating in the air or being half underground.

# Integrate with Google Earth



1. The model building is facing the wrong way and is too small, so select it with the Move tool, place the tool on the top surface, click once to grab one of the four red “rotation handles” and spin it 180 degrees. Click again to place the component.

You can also use the Move tool to nudge the component horizontally to line up with the aerial photo – just grab somewhere other than the rotation handles.

2. Try adding another instance of the MU3 01 component to make a larger L-shaped building.

Hint: Right-click > Flip along green axis.

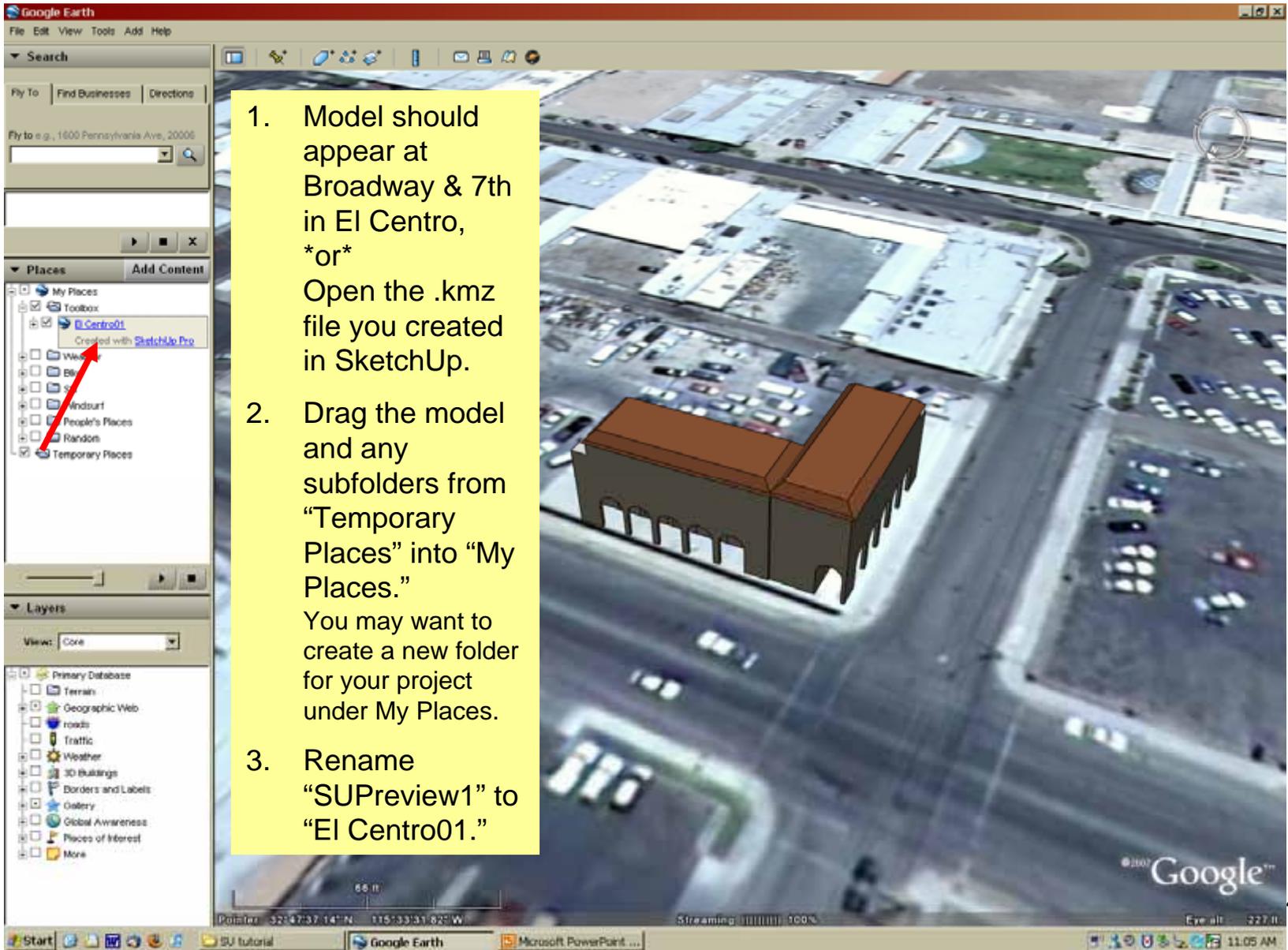
# Integrate with Google Earth



1. You're ready to send the model back to Google Earth:
2. Save your SketchUp file first!  
It may also help to close the SketchUp program and then re-open.
3. Start Google Earth.
4. Click the "Place Model" tool button in SketchUp,  
\*or\*  
Export a .kmz file: File menu > Export > 3D Graphic
5. You can also export still-image views (jpg, tif, bmp, png) of your model from SketchUp: File menu > Export > 2D Graphic



# Integrate with Google Earth

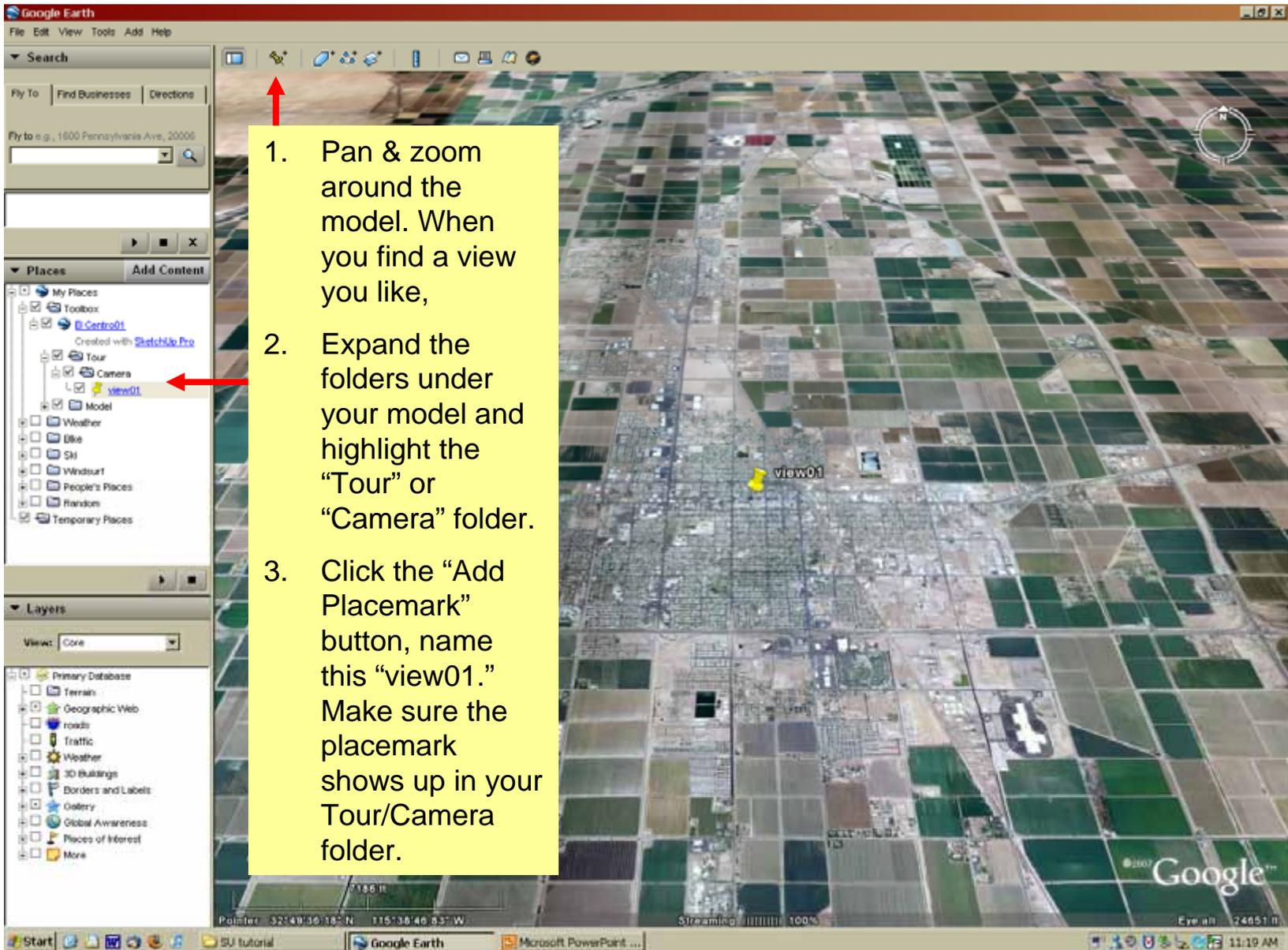


1. Model should appear at Broadway & 7th in El Centro, \*or\*  
Open the .kmz file you created in SketchUp.

2. Drag the model and any subfolders from “Temporary Places” into “My Places.”  
You may want to create a new folder for your project under My Places.

3. Rename “SUPreview1” to “El Centro01.”

# Create a Fly-Through



1. Pan & zoom around the model. When you find a view you like,
2. Expand the folders under your model and highlight the “Tour” or “Camera” folder.
3. Click the “Add Placemark” button, name this “view01.” Make sure the placemark shows up in your Tour/Camera folder.

# Create a Fly-Through

The screenshot shows the Google Earth application window. On the left, the 'Places' panel is expanded to show a 'Tour' folder containing a 'Camera' sub-folder with three items: 'view01', 'view02', and 'view03'. A red arrow points from the 'view02' item to the yellow callout box. Another red arrow points from the top of the callout box to the toolbar icon for creating a new view (a camera icon with a red dot). The main 3D view shows a large, grey, multi-story building with a brown roof and arched windows, situated on a city street. The bottom of the window shows the status bar with coordinates (32°47'37.16" N, 105°33'31.10" W), a scale bar, and the Google logo.

1. Continue setting up views & creating placemarks in your Tour or Camera folder – “view02, view03,” etc.

2. Drag the view placemarks up & down the list to create the desired fly-through sequence.

# Create a Fly-Through

1. Preview your fly-through: Uncheck all the view markers in the menu.

2. Check any Layers you want to show (roads, county, borders, etc) and uncheck the rest. You'll almost always want to show "Terrain."

3. Highlight the Camera folder and click the "Play" button.

The screenshot shows the Google Earth interface with a 3D model of a building on a city street. The left sidebar contains the Search, Places, and Layers panels. The Places panel shows a 'Tour' folder containing a 'Camera' folder and three 'view' folders. The Layers panel shows various layers including Terrain, roads, and borders. The 'Play' button is visible in the Places panel. The bottom status bar shows the current location and streaming status.

# Create a Fly-Through



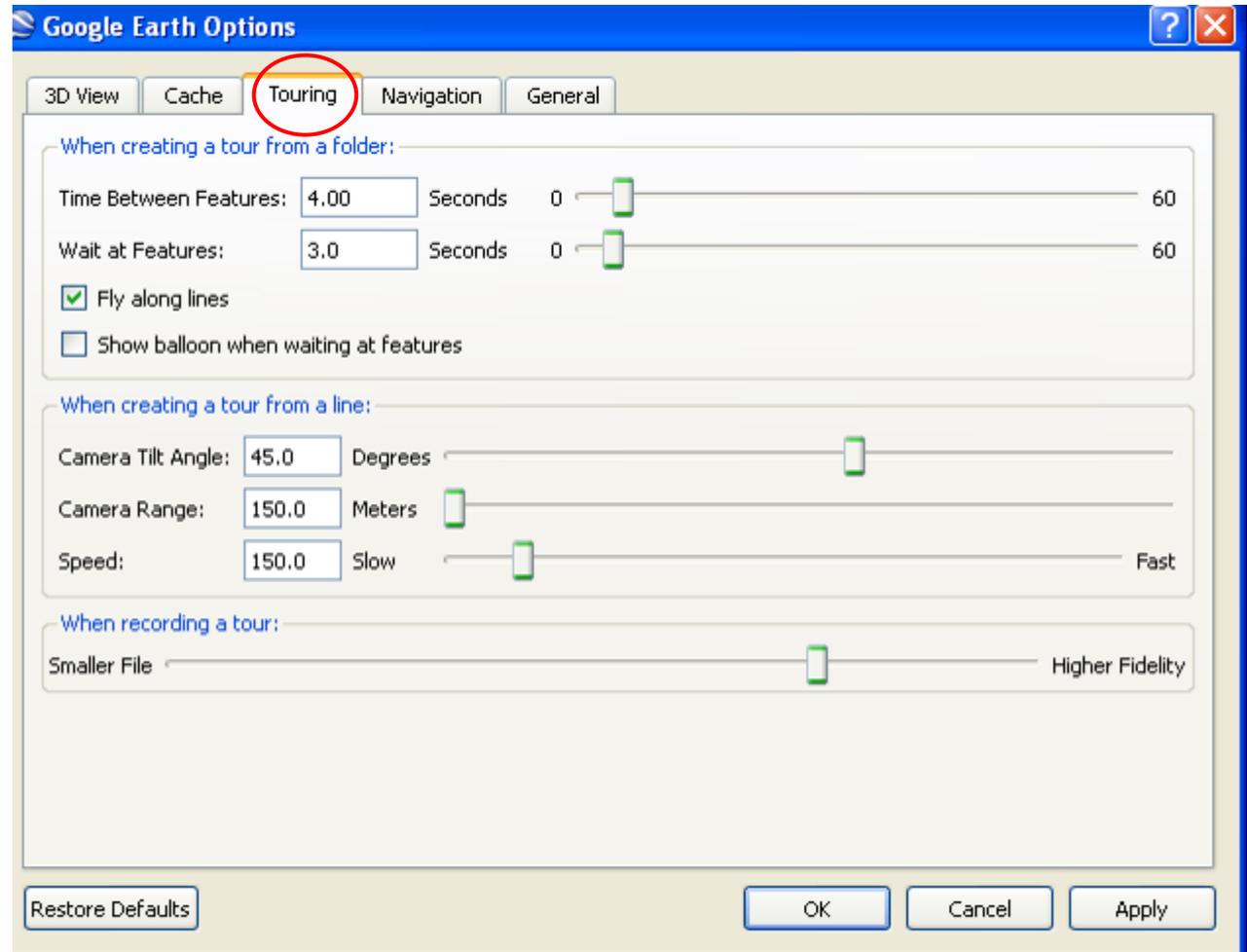
The image shows a screenshot of the Google Earth application interface. A pink line is drawn across the 3D city view, representing a fly-through path. A yellow text box is overlaid on the interface, containing a list of four steps. Red arrows point from the text box to specific UI elements: the top toolbar, the 'EC line tour' in the Places panel, the 'Play Tour' button, and the 'Tour console' at the bottom.

Another method –  
Fly along a path:

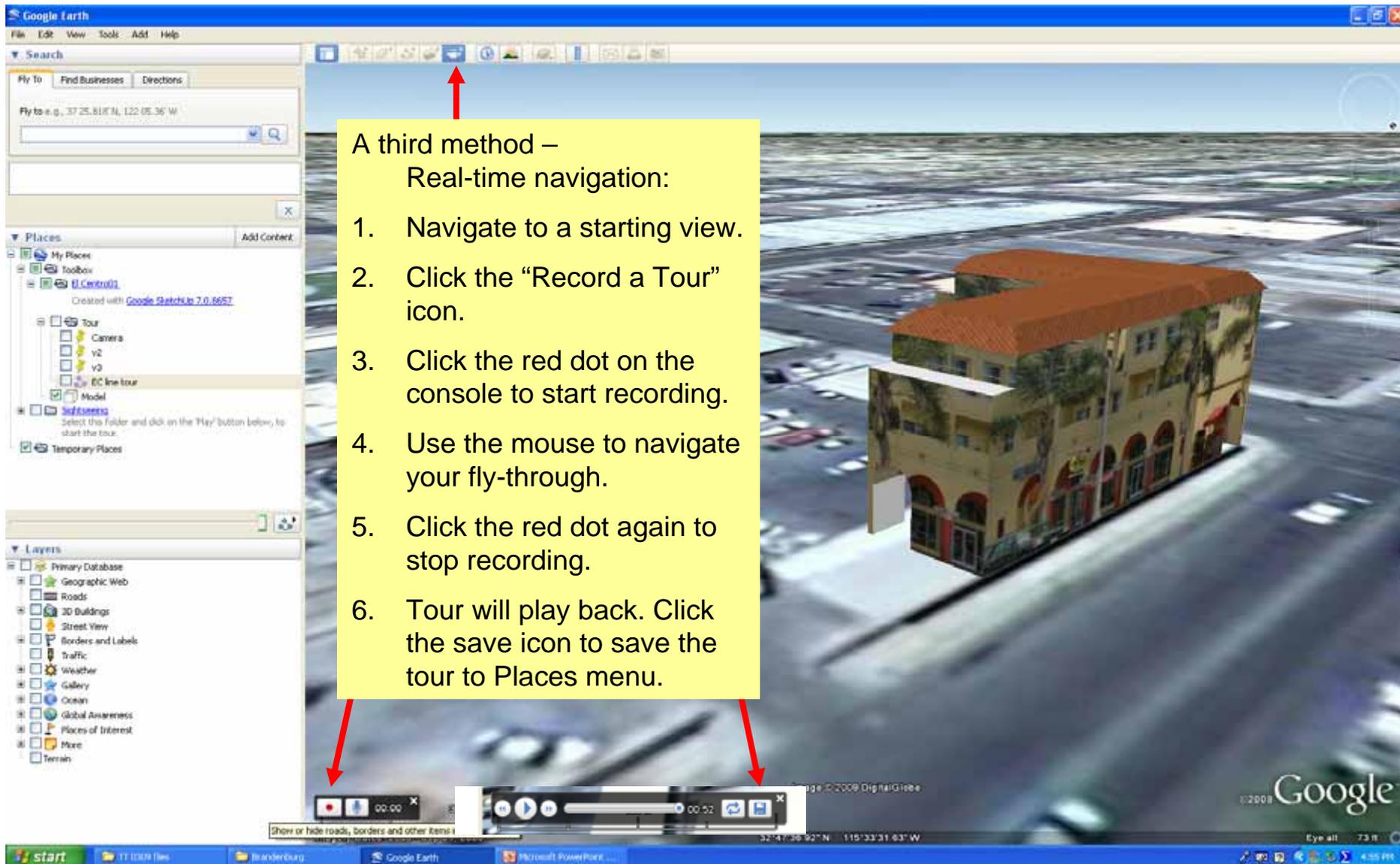
1. Use the “Add Path” tool and draw a path for the camera to follow.
2. Highlight the path in Places menu
3. Click the “Play Tour” button.
4. Note Tour console –  
Need to close it to use some tools.

# Fly-Through Options

1. Click Tools menu > Options
2. Click Touring Tab.
3. Adjust “Time Between Features” & “Wait at Features” (use value windows or sliders) to change the pace of your fly-through.
4. Usually uncheck “Show balloon.”
5. Adjust “Camera Tilt, Range & Speed” for Path tours



# Create a Fly-Through

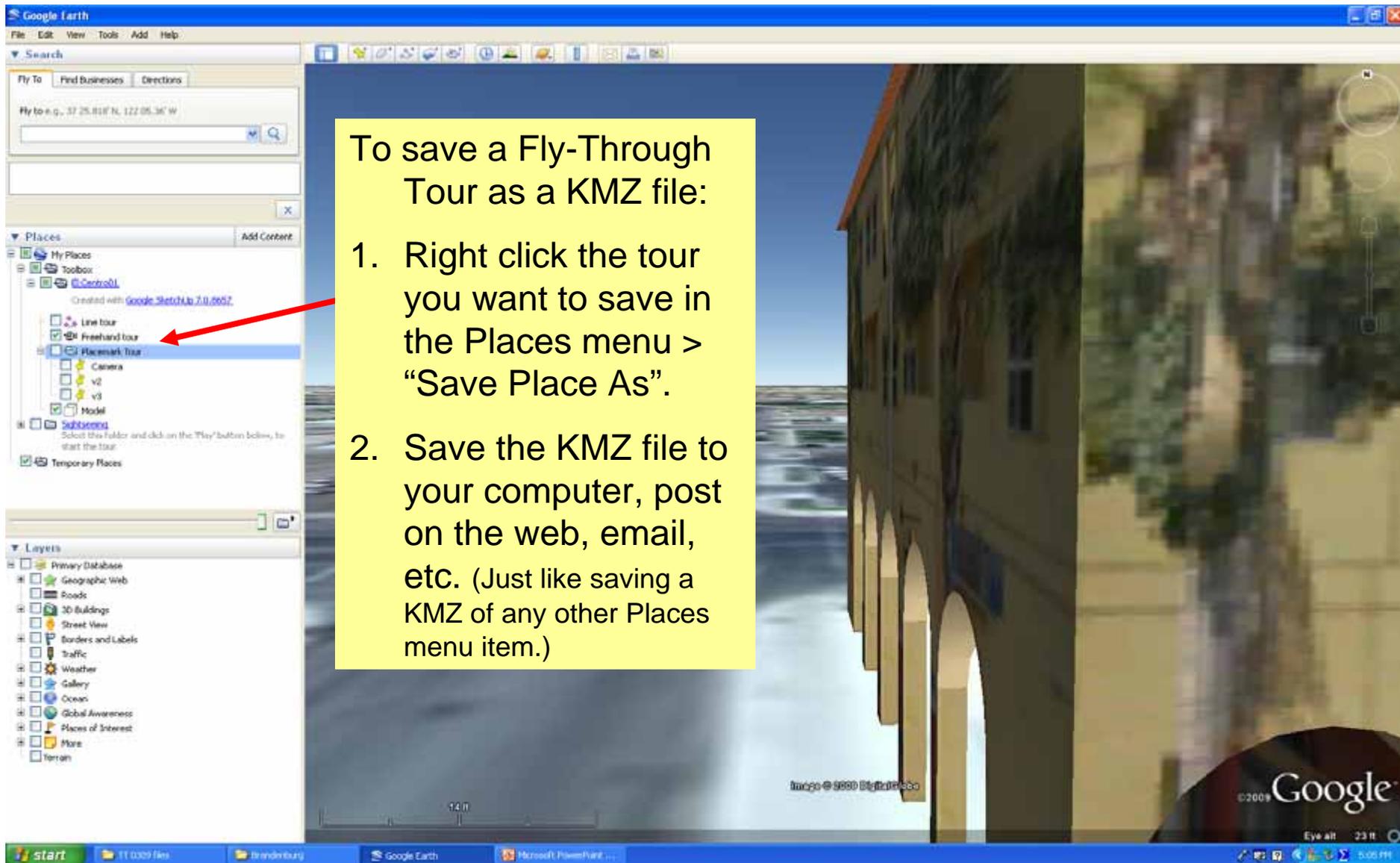


The image shows a screenshot of the Google Earth application window. The main view displays a 3D model of a multi-story building with a red roof and arched windows, situated on a city street. The interface includes a search bar at the top left, a 'Places' panel on the left side, and a 'Layers' panel at the bottom left. A yellow text box is overlaid on the center of the screen, containing a list of six steps for creating a fly-through. A red arrow points from the top of the yellow box to the 'Record a Tour' icon in the top toolbar. Another red arrow points from the bottom of the yellow box to the 'Save' icon in the bottom toolbar. A third red arrow points from the bottom of the yellow box to the 'Show or hide roads, borders and other items' button in the bottom toolbar.

A third method –  
Real-time navigation:

1. Navigate to a starting view.
2. Click the “Record a Tour” icon.
3. Click the red dot on the console to start recording.
4. Use the mouse to navigate your fly-through.
5. Click the red dot again to stop recording.
6. Tour will play back. Click the save icon to save the tour to Places menu.

# Save a Fly-Through



To save a Fly-Through Tour as a KMZ file:

1. Right click the tour you want to save in the Places menu > “Save Place As”.
2. Save the KMZ file to your computer, post on the web, email, etc. (Just like saving a KMZ of any other Places menu item.)

The screenshot shows the Google Earth interface with the following elements visible:

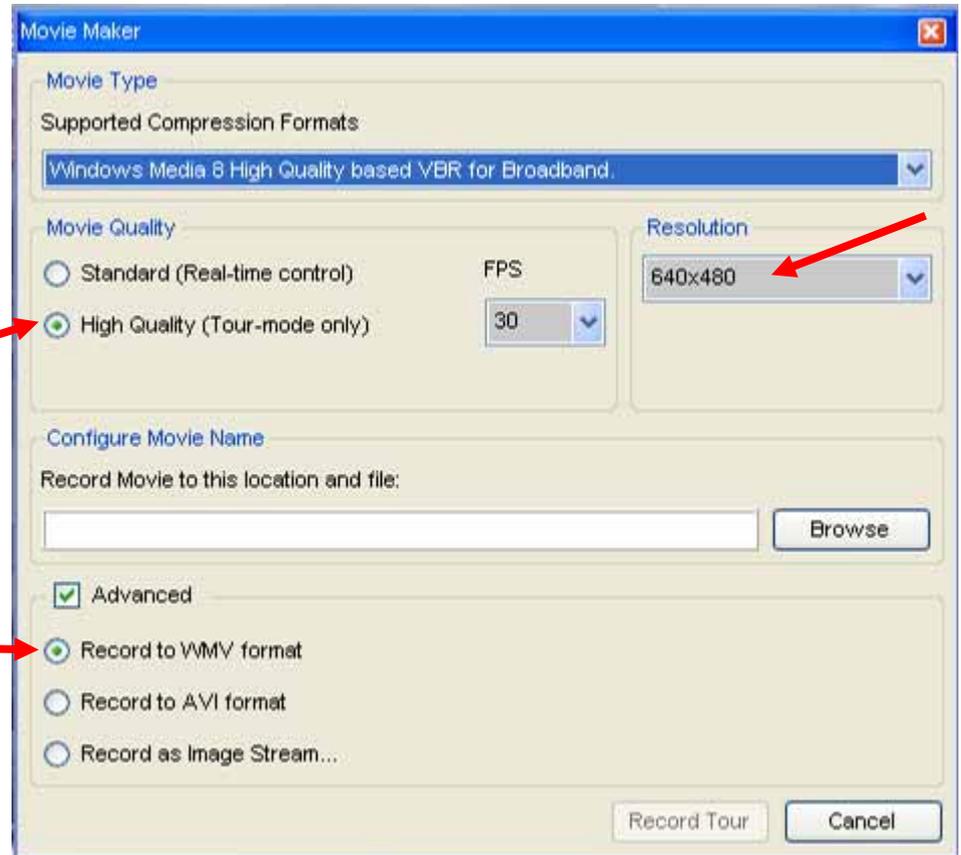
- Search Panel:** Includes 'Fly To' buttons for 'Find Businesses' and 'Directions', and a search input field with the example text 'Fly to e.g., 37 25.810' N, 122 05.36' W'.
- Places Panel:** Shows a tree view under 'My Places'. A red arrow points to the 'PlaceMark tour' folder, which contains sub-items like 'Line tour', 'Freehand tour', 'Camera', 'v2', 'v3', and 'Model'.
- Layers Panel:** Lists various map layers such as 'Primary Database', 'Geographic Web', 'Roads', '3D Buildings', 'Street View', 'Borders and Labels', 'Traffic', 'Weather', 'Gallery', 'Ocean', 'Global Awareness', 'Places of Interest', 'More', and 'Terrain'.
- Main View:** Displays a 3D street view of a building with arches.
- Taskbar:** Shows the Windows taskbar with the Start button and open applications: '11 0309 files', 'Render tour', 'Google Earth', and 'Microsoft PowerPoint...'. The system tray shows the date and time as '5:05 PM'.

# Video Export

Free version of Google Earth only allows export of fly-through videos in Google Earth (KMZ) format. You can export jpg still images of any view: File menu > Save > Save Image.

Pro version allows higher quality options for still image output and “Movie Maker” tool for video export in a variety of formats:

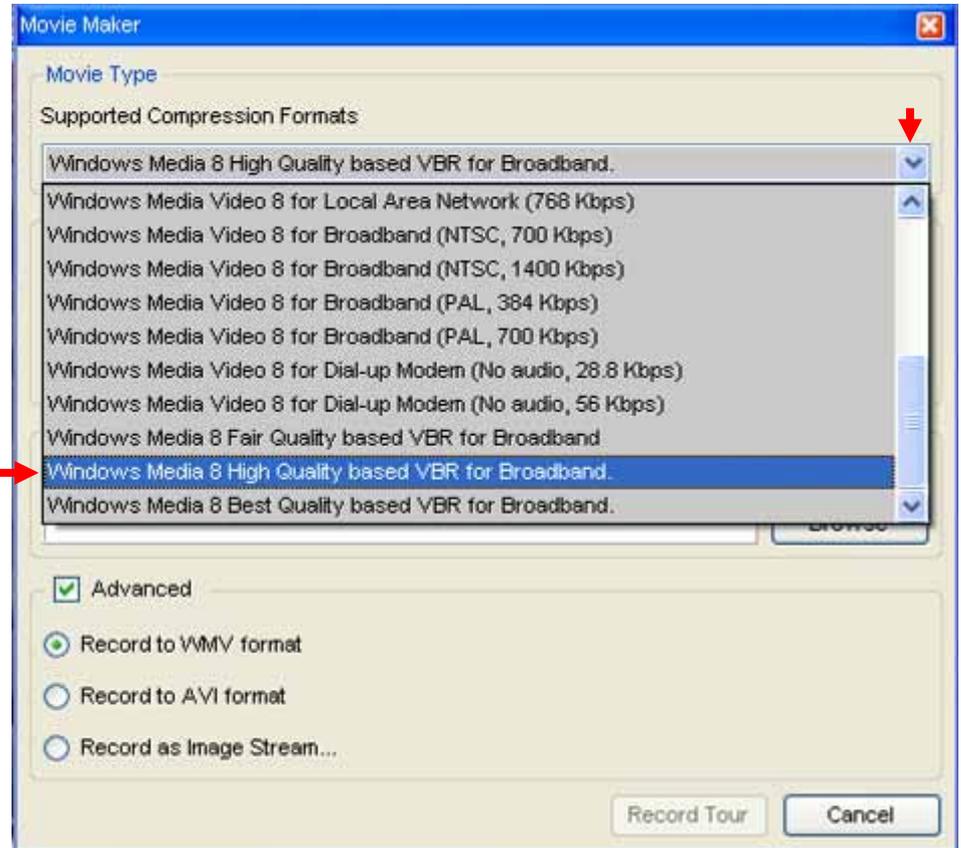
1. Set up your fly-through using one of the 3 methods described, select your Tour item in the Places menu.
2. Click Tools menu > Movie Maker.
3. Click “High Quality.”
4. Choose a screen size resolution. 640x480 is good for most powerpoints, smaller may be better for web distribution of clips without much detail. Larger for DVD or large-screens.
5. Check the advanced box:  
Recording to WMV format will keep your file size manageable. AVI for eventual high-quality distribution.



*Note: All of these settings will effect the visual quality and file size of your video. Experiment and find your favorites for different applications & audiences.*

# Video Export

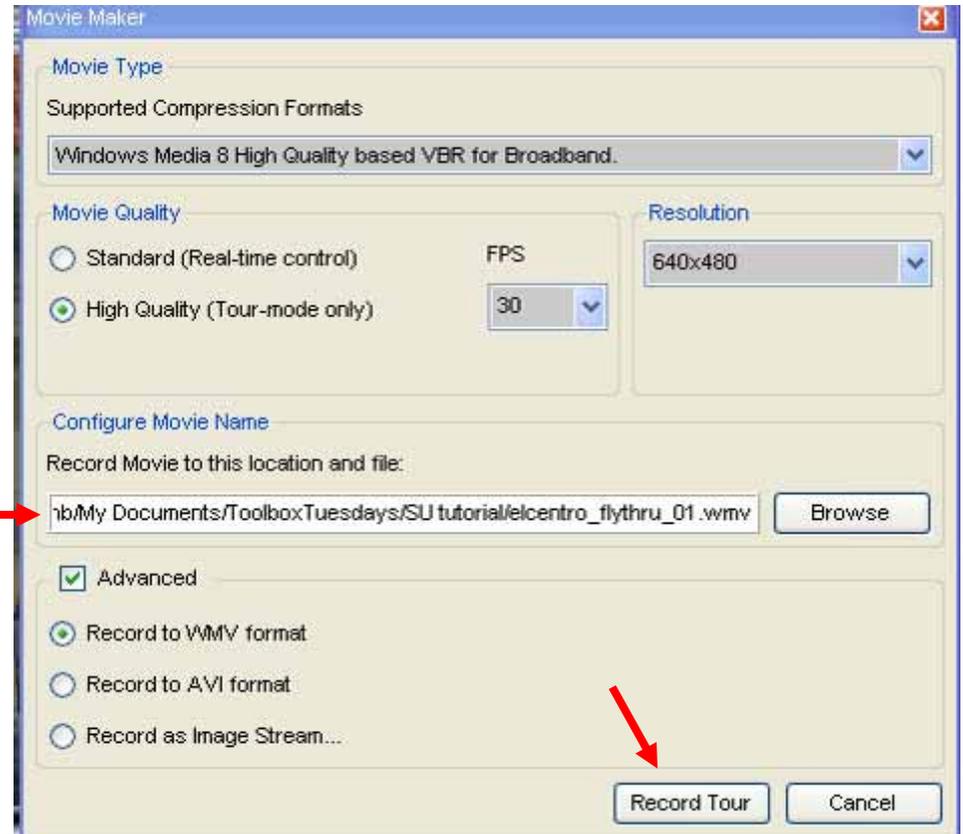
6. Choose a Compression Format from the drop-down list. "High Quality VBR" is good for powerpoints and web download. For web streaming, try the constant-rate options above (and a smaller screen resolution).



*Note: All of these settings will effect the visual quality and file size of your video. Experiment and find your favorites for different applications & audiences.*

# Video Export

7. Name your video file.
8. Click “Record Tour.”
9. The Movie Maker tool will encode your fly-through into a WMV video clip.  
This may take a while, depending on the length and visual complexity of your fly-through, the export settings and your computer hardware.



*Note: To reduce encoding time and the chance of errors, close all other programs before clicking Record and don't touch your computer until encoding is complete.*

# Video Export

10. Preview your video in Media Player  
other video viewer.

- Post your video on the web;
- Add it to a Powerpoint presentation;
- Import to a video editor to add other media;
- Etc.

