

Google SketchUp Geography / History Project #2

This project uses Google Earth, another free product by Google. SketchUp and Earth work in tandem with each other: you can bring a “slice” of Earth into SketchUp and build something on it, then bring that model into Earth.

You can download Google Earth here: <http://earth.google.com>.

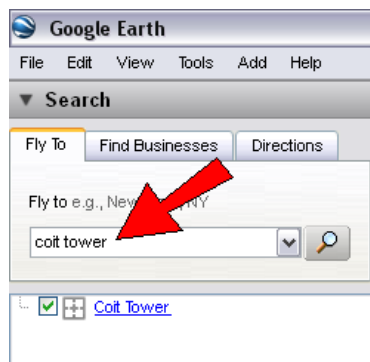
If you need some basic information on downloading Google SketchUp, or about its user interface and basic tools, please see our printable “Intro to SketchUp” PDF.

The PC version is at www.3dvinci.net/SketchUp_Intro_PC.pdf.

The Mac version is at www.3dvinci.net/SketchUp_Intro_Mac.pdf.

In this project, we want to build something on top of a hill. San Francisco, California is a pretty hilly town, and it happens that there is some space for a new building next to the famous Coit Tower. (The empty space is actually a parking lot, but we’ll ignore that.)

1. Launch Google Earth, and enter “Coit Tower” in the **Fly To** field. You can use this field to search for cities, landmarks, famous places, exact addresses, etc.



Earth moves to this birds-eye view of the tower.



2. There is a layer in Earth called “3D Buildings” - make sure this is on, or you won’t see any models. (You can turn off other layers, if Earth is moving too slowly or is too cluttered.) Use the navigation controls to zoom, pan, and orbit so that you can see the tower in a view like this. (Most navigation can be done with your mouse, using the left or middle mouse button and dragging up and down, left and right.) When the cursor is over the tower, the tower is highlighted.



When a building is highlighted like this, it means that it is stored in Google’s 3D Warehouse. The Warehouse is a place where anyone can upload any model (within reason), and any model can be downloaded by anyone. To enter the warehouse, go to <http://sketchup.google.com/3dwarehouse>. (Any model can be placed in the Warehouse, but Warehouse models that make it into Google Earth have to meet certain standard for accuracy and placement, and are screened by Google staff.)

3. To get more information on the Coit Tower, click on it when it's highlighted. You will see a window with a description and picture of the model.



If you click on the model in this window, you'll open the model's page in the 3D Warehouse. You can download it, if you like.

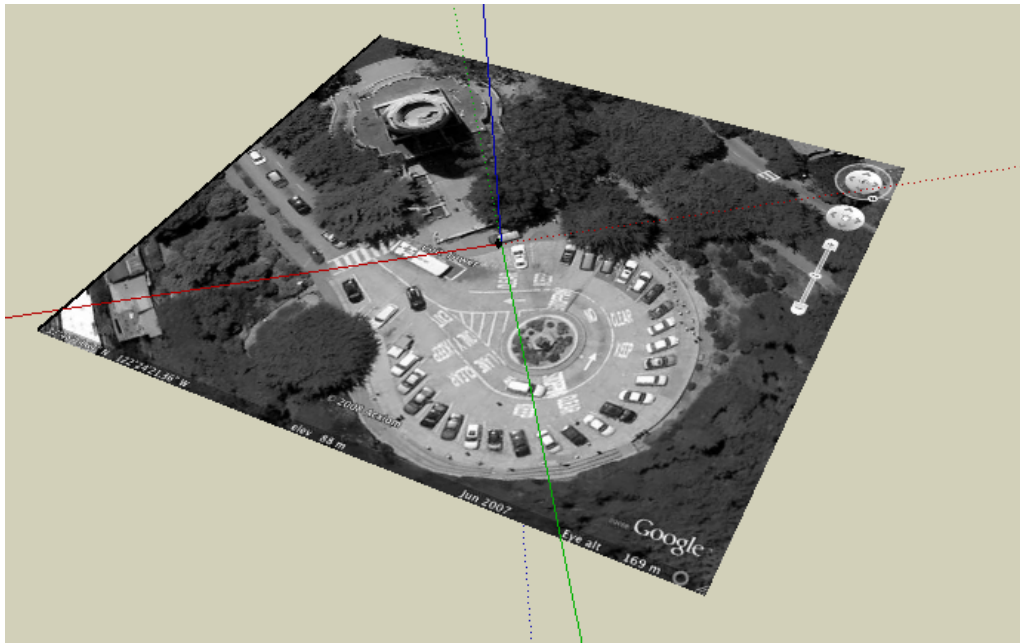
4. Our new building will be placed here, in the center of the traffic circle next to the tower (maybe it's not where you'd ideally want to place a building, but maybe someday they'll move the parking lot). Before going back to SketchUp, you should navigate to a birds-eye view, looking down at the spot for the new building. Make the view large enough to fill the Earth window.



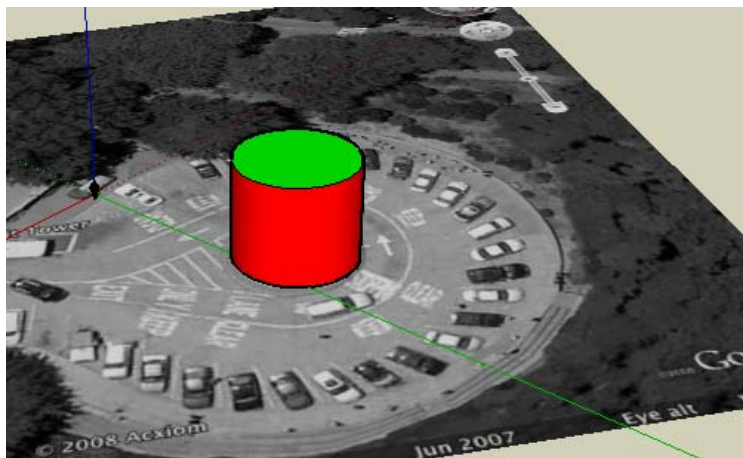
5. Now open SketchUp, and click **Get Current View**.



This takes the view you had in Earth, and places it into SketchUp.



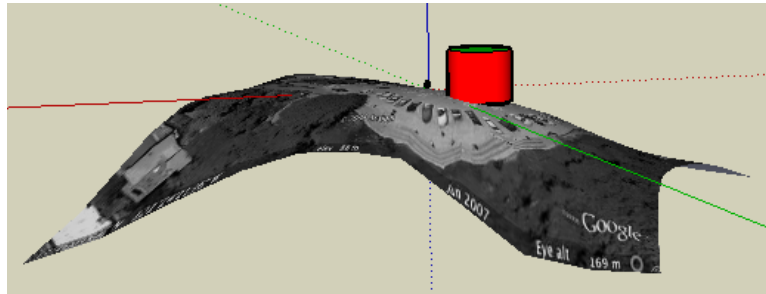
6. To make a simple building, use **Circle** and **Push/Pull** to make a simple cylinder. Place it in the traffic circle, and paint it something bright that will stand out in Earth.



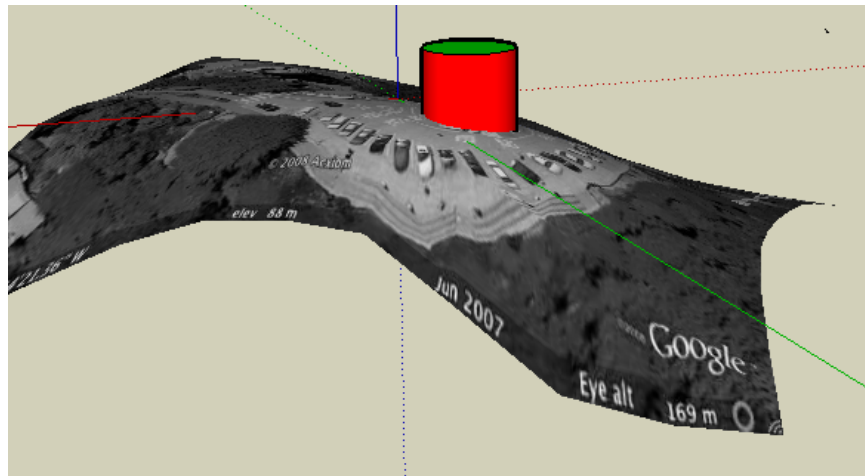
7. The view from Earth looks like a large, flat face, but we know that this spot is on a hill. There are two ways to see an Earth view in SketchUp: as a flat snapshot which we see now, and as accurate terrain (hills and valleys). It's best to start creating your models on the flat view, but you also need to check the terrain view, to make sure the model is in the exact right place. So click **Toggle Terrain**.



Now you can see the hill. Your building might look OK, but mine is now a little off-center, and hanging off the side of the hill.



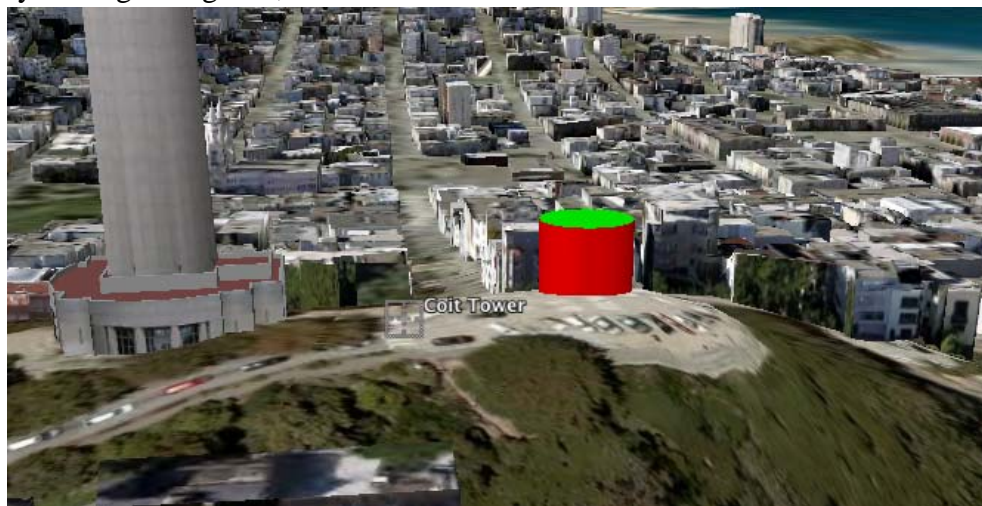
8. So move or rotate the building so that it looks just right.



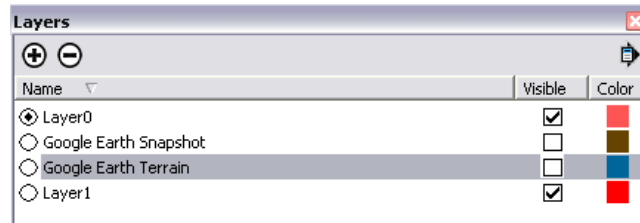
9. Even though this isn't your final building, we can still check how it will look in Earth. Click **Place Model**.



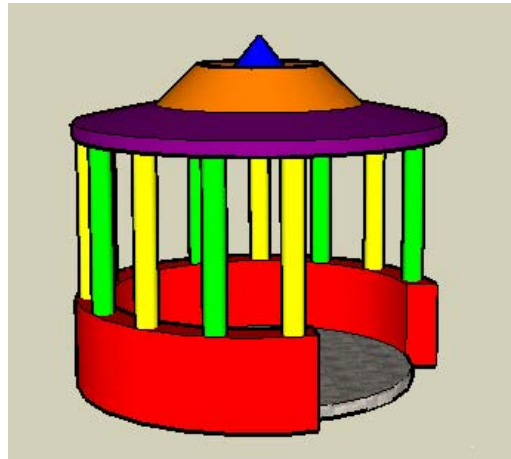
In Earth, the cylinder goes right in, next to the Coit Tower.



- To change this building, go back to SketchUp. When you want to do some serious work in SketchUp, you probably don't want those Earth views getting in the way. You can't erase or move the views (they are locked), but you can hide them. Both the snapshot (flat) view and the terrain view are placed on their own layer. Open the **Layers** window (**Window / Layers**) and uncheck the **Visible** box for both Earth views.



- Now you can do whatever you want with this building, or erase it altogether and create something new. I made an amphitheater or pavilion - the columns were copied using the **Rotate** tool, and the roof was made using the **Follow Me** tool.



- Click **Place Model** again, and you'll have to confirm that you want to replace what you did before (the cylinder). Here's a new view of my model, overlooking San Francisco Bay.



13. This model is in your Google Earth as a temporary place - it is not on the “main” Google Earth that everyone sees. If you want to save this place in Earth, use **File / Save / Save Place As**. The file extension is .kmz. You can save your SketchUp file as well, which will keep its location information. If you open a saved SketchUp file with location information, you can always use **Place Model** to see where it ends up in Earth.
14. If you want to upload the model to the 3D Warehouse, click **Share Model**. You’ll need a Google account, which is free and easy to create.

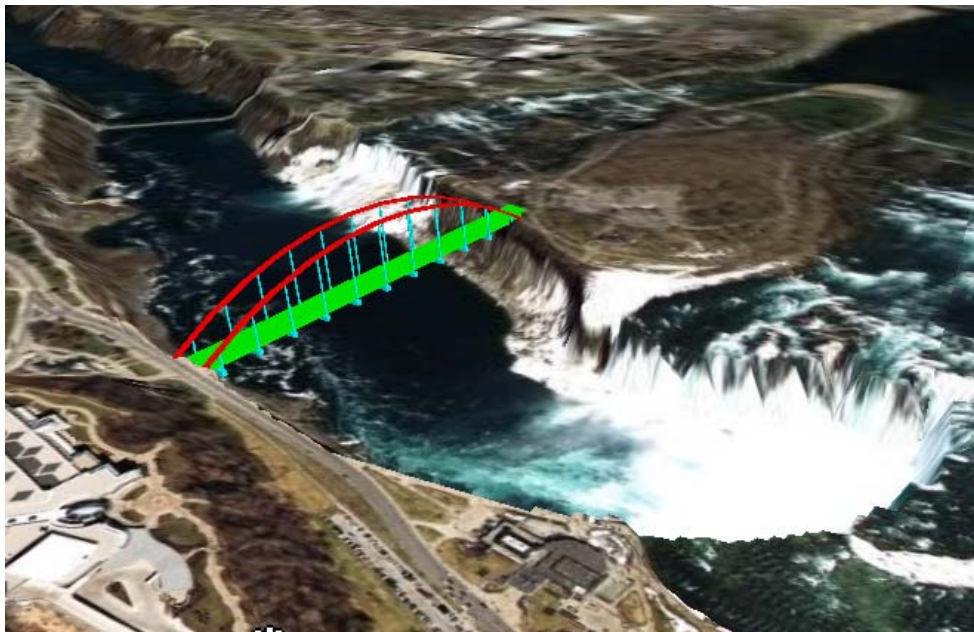


If you have students producing models as part of a class project, you can set up a new Google account for the class as a whole, and create a collection in the Warehouse for the students to use.

When you’re creating a model for a specific location, you don’t have to start by bringing the Earth view into SketchUp. You can build the SketchUp model in “empty space” first, and then bring the Earth view in. You will then have to move, rotate, or size your model to fit the view, and after that you can send the model back to Earth.

Here are some other ideas for projects:

- A bridge over Niagara Falls:



- A rocket next to the Kennedy Space Center.



- Model your school, house or other building in your town, using exact measurements and colors. (If you know how to apply digital pictures to “paint” a model, that’s even better.) If you want your model to appear in Google Earth, make sure to provide an accurate title, an interesting description, and an address. Also check **This 3D model is real, current, and correctly-located**, which will place your model in the queue for the 3D Buildings layer. (Google has a team of designers who accept or reject potential earth models.)

Google 3D Warehouse [| My Models | My Collections |](#)

Upload your model to 3D Warehouse

CoitAmphitheater.skp (340 kb)

This model is described in the free Teacher Guide, produced by 3DVinci. This is a geograpy or history project for grades 10 - 12. In this project, you use Google Earth to find some "empty" space next to a famous landmark (the Coit Tower in San Fransisco). In SketchUp, you build a new structure on the plot of

teachers, students, elementary, school, kids, classroom, class projects, history, tech ed

This model is geographically located
If your model is incorrectly located please reimport in SketchUp and change your location.

This 3D model is real, current and correctly-located [?](#)

Additional content (includes url, logo, configuration and share settings)

