

Google SketchUp Art / History Project: Grades 6 – 9

SketchUp can be used for projects in almost any subject. And with so many classes combining subjects, SketchUp fits right in.

This project involves finding paintings on the Internet and placing them on the walls of an art museum. This sort of project could be great for a class learning about periods in art history, or studying a series of paintings by a particular artist. The art placed on the walls can even be the students' own work, if it's in digital format.

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.

The first step is to find the painting we want to "hang" on the walls. Each painting will be placed in a frame and saved in its own file. Then when all the paintings are ready, we'll build the museum and bring the paintings to the walls.

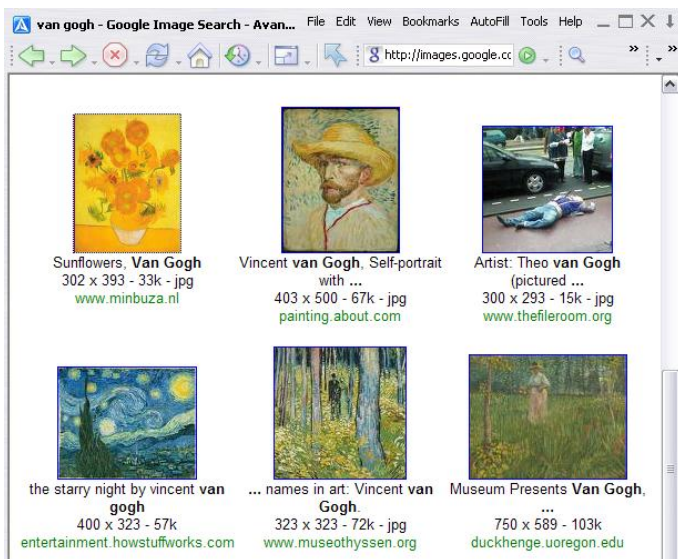
1. The easiest way to find a painting is via a web search. Both Google or Yahoo provide a separate link just for image searching.



2. Enter the name of the artist or painting in the Image Search field.

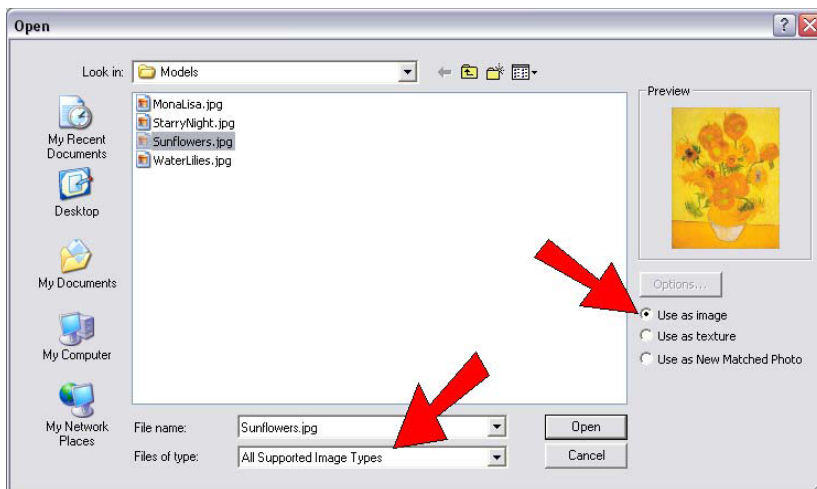


3. The search results will show thumbnails of all relevant images. When you save an image from here, you want to be sure to save the largest resolution available. So click on the thumbnail to see the larger version.

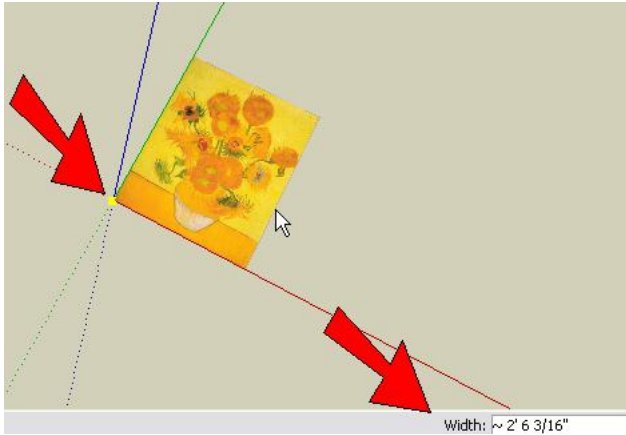


4. When you get to the largest version of the image, right-click on it and choose **Save Picture As**. Save it somewhere you will remember!

5. Now open a new SketchUp file, and choose **File / Import**. Make sure you are looking for image files, and check **Use as image**. Browse to the folder where you saved your painting image, and click **Open**.

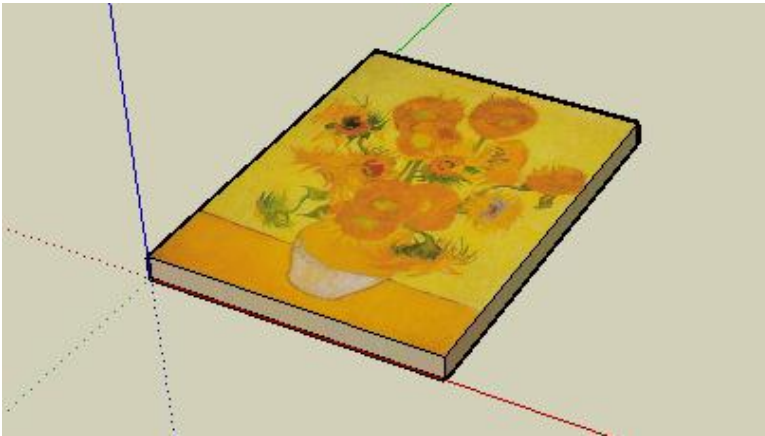


6. The image comes in attached to your cursor. Place one corner at the origin. While you're sizing the image rectangle, watch the **Width** or **Height** value in the box below the SketchUp window. This number doesn't have to be exact, but it should be logical (a 40-foot tall painting won't fit on many walls!).



7. To make a SketchUp face out of this image, right-click on it and choose **Explode**.

8. It's not recommended to keep the painting face flat, because it won't look quite right when you place it on a wall (both the painting and the wall will be in the same exact spot, so SketchUp can't tell which should be in front). So **Push/Pull** the painting up a small amount.



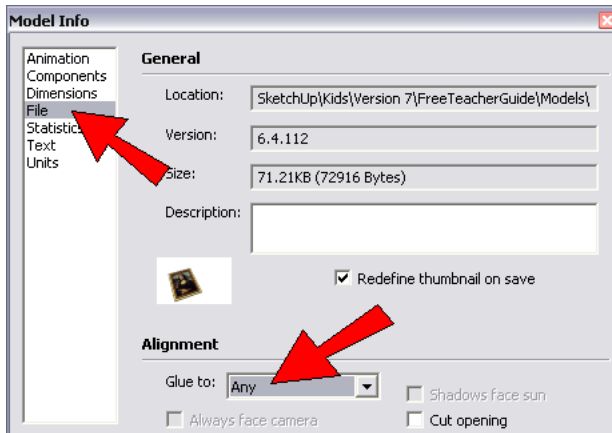
9. We could save the painting like this, but it's more interesting to give it a frame. Use the **Offset** tool on the back face of the painting to make a slightly larger rectangle.



10. Then use **Push/Pull** to make the frame, and color it.

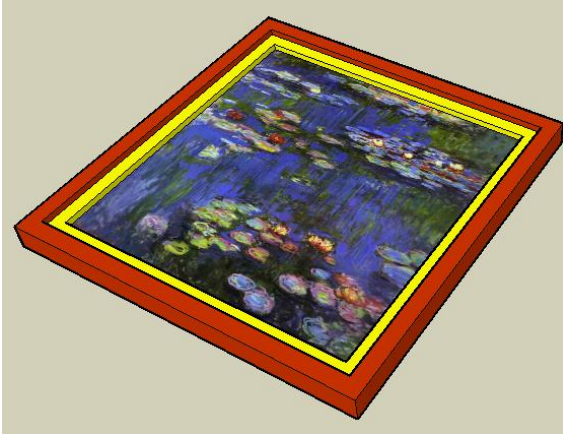


11. Here's a very important step when you're making a model you'll be using later in another model. We need to determine how this painting will align when it's imported into the museum. So choose **Window / Model Info**, and open the **File** page. Next to **Glue to**, choose **Any**. This means when it's imported, the painting will align to any face, whether the face is vertical or horizontal or sloped.



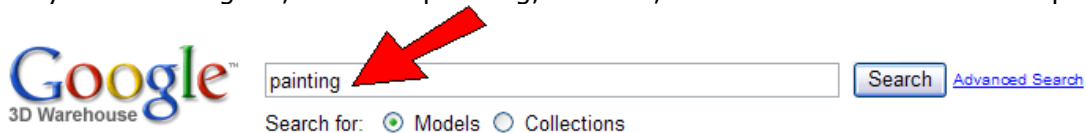
12. Before saving, make sure there's nothing in the file except for the painting. (If you have a person in your file, erase it.) Then use **File / Save As** to save the model.

13. Do the same for the other painting images you found online, saving each painting and frame in its own file. You can make frames as fancy as you want - in this example I used **Offset** twice to make two frame rectangles, and pulled each one up by a different amount.



The **Follow Me** tool is great for creating frames, using any kind of cross-section you want.

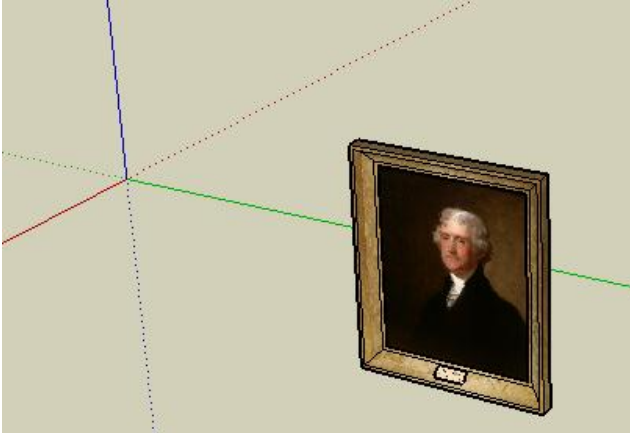
14. If you don't want to create your own painting models, there are many models like this in Google's 3D Warehouse. The Warehouse is a place where anyone can upload any model (within reason), and any model can be downloaded by anyone. To enter the warehouse, go to <http://sketchup.google.com/3dwarehouse>. Enter what you're looking for, such as "painting," "frame," or the name of an artist or painting.



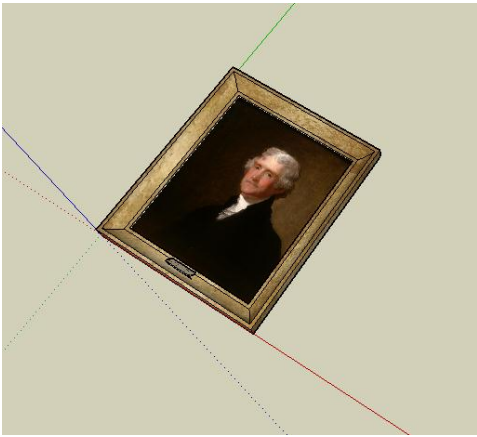
15. Here's one I found - a portrait of Thomas Jefferson. To save it, click **Download Model**.



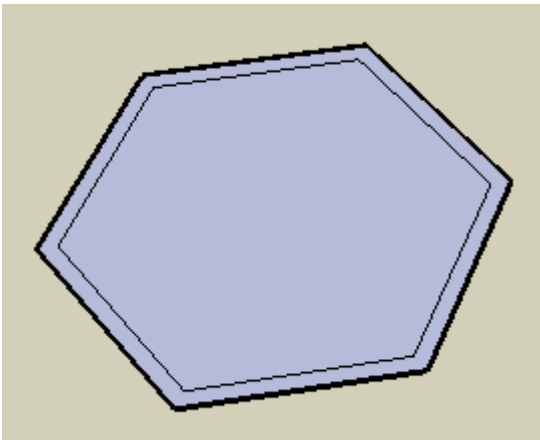
You need to be careful with models you get from the Warehouse, because the quality is not guaranteed. For example, this model is located far from the origin, and is vertical (the ones we made ourselves are flat on the ground).



16. So be sure to “fix up” your Warehouse model before saving it. For this one, I moved and rotated it so that it meets the origin, and the vertical side is parallel to the green axis. I also made sure the image wasn’t flat, and changed the **Model Info** window to glue to **Any** face.

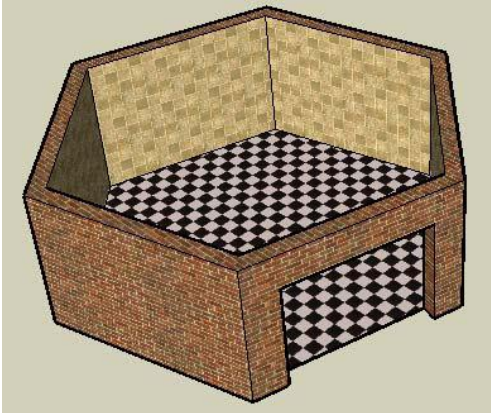


17. When you have enough paintings, start a new file for the museum building. Mine will be just one big room, shaped like a hexagon. I used the **Polygon** tool, and entered 6 for the number of sides. Then I used the **Offset** tool to create another hexagon, to make a set of walls around the hexagon.

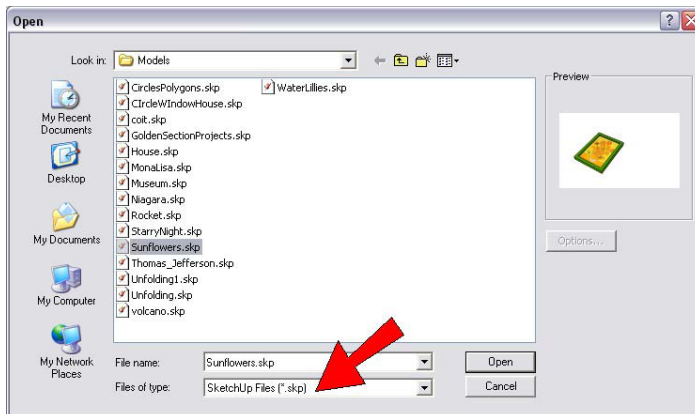


You would probably want to make a larger museum (at least with more than a single room), and perhaps with more than one floor.

18. Leave off the roof (for now), and add an opening for a door.



19. To bring in the first painting, choose **File / Import**. Make sure this time you're searching for SketchUp files.



20. Models brought in this way are actually components. And because the painting models are set to glue to any face, they should be vertical when placed on a wall. If the painting looks too big or small, you can use the **Scale** tool to change its size.



21. Bring in each painting the same way, and we're done!



Here are some ways to expand on this project idea:

- Group paintings from the same period (or artist, or painting "school") in their own rooms.
- Make separate collections for paintings from different regions of the world.
- Use digital images as the paintings (images can be of students, nature, architecture, etc.)
- Take actual student paintings and scan them, and use the digital images as the paintings.

And if you want to receive three ready-to-use projects like these each month, sign up for our SketchUp Projects of the Month subscription
<http://www.3dvinci.net/ccp0-prodshow/POM.html>).

All of the models in the Teacher Guide can be downloaded from Google's 3D Warehouse:
<http://sketchup.google.com/3dwarehouse>.