SketchUp *in the Classroom*

Google SketchUp

What is it?

Google SketchUp is a free downloadable application that gives students a robust 3D modeling tool. Even though SketchUp is a very powerful program, in just a few minutes you can be creating your own designs. There are lots of ways to learn how to expand your skills: with official and unofficial video tutorials, an extensive Help Center and a worldwide user community, becoming a SketchUp "Pro" is a few mouse clicks away. SketchUp lets you create the simplest 2D shapes to the most advanced 3D structures. Give your students the power to SketchUp their imagination and creativity.

Why use it?

Students can use SketchUp to:

- Visualize geometry and other mathematical concepts.
- Model buildings and learn about architectural design and engineering.
- Design interiors, landscapes, and buildings in 3D.
- Learn about the history of your town as you design models of the town's historical buildings.

Teachers can use SketchUp to:

- Engage students who are more adept visual learners.
- Introduce the world of 3-dimensional design.
- Illustrate geometry and other mathematical concepts.
- Take a normal math or history class and make it extraordinary by letting students create abstract shapes or real world buildings from the lessons they are learning.

Instructional Ideas

Elementary. Draw basic 2D shapes such as circles and polygons. Extrude these shapes into 3D. Apply colors/textures to each one from the materials library.

Middle School. Have students design their dream house or classroom. Import models of furniture, trees, and people from the Google 3D Warehouse.
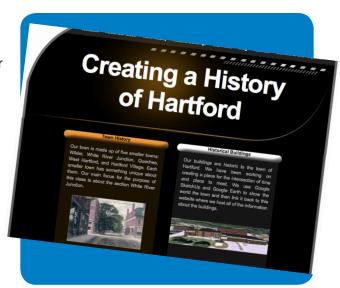
Expert Tip

Everything you need to get started with Google SketchUp can be accessed from within the application. The first thing you should do is watch the Quick Start videos by clicking on "View Tutorials" in the Help menu.

High School. Model your high school. Start by importing the footprint snapshot image location from Google Earth. Trace the perimeter of the building outline and extrude up to correct height from data collected by physically measuring the height of the building. Apply photo textures from digital photos taken of each facade. Export your geographically located model back into Google Earth, and upload to the Google 3D Warehouse. Wait for it to be judged and possibly see it in the permanent layer of Google Earth for the world to view!

SketchUp in Action

Project: Model Your Town's Historic Buildings
Grade/Subject: 10th, 11th and 12th Grade, Computer Technology, History, Arch/Urban Design, Geography
URL: http://creatinghartfordvt.com/

Hartford High School offers a class providing students with a rare chance to do history. Students work in the field interviewing residents, researching historical documents, and photographing the town's historic buildings one facade at a time. Then, using Google SketchUp, create 3D models of each building which are geo-located in Google Earth. With this project, students have reached an intersection of place, history and technology, and provide a visual presentation for the world to enjoy.

Additional Resources

More on SketchUp

Google SketchUp (free version) download link:
http://sketchup.google.com/product/gsu.html

Google SketchUp Help Center:
http://sketchup.google.com/support/

Google SketchUp Video Tutorials:
http://www.youtube.com/user/SketchUpVideo

Google SketchUp Self-paced Tutorials:
http://goo.gl/WInTd

Google SketchUp in the Classroom K-12 Case-Study Video:
http://goo.gl/w4MQi

Google SketchUp Pro K-12 Statewide License Grant Information:
http://sketchup.google.com/intl/en/industries/edu/Google-SketchUp-License-Grant-datasheet.pdf
or email *sketchupforeducation@google.com*

Complementary Tools

Google Earth
http://earth.google.com

Google 3D Warehouse
http://goo.gl/IOXa8

Google Building Maker
http://goo.gl/mw7BD